29.524/51

29,524/B/1

496
6/6

83325

THE

# CLIMATE OF LONDON,

DEDUCED FROM

# Meteorological Observations,

MADE IN THE METROPOLIS,

AND AT

VARIOUS PLACES AROUND IT.

---

BY LUKE HOWARD, GENT.

CITIZEN OF LONDON; HONORARY CITIZEN OF MAGDEBURG; FELLOW OF THE ROYAL SOCIETY, AND HONORARY ASSOCIATE OF THE SOCIETIES OF ARTS OF HAMBURGH AND LEIPSIC.

---

IN THREE VOLUMES.

A SECOND, MUCH ENLARGED AND IMPROVED, EDITION,

IN WHICH THE

OBSERVATIONS ARE CONTINUED TO THE YEAR MDCCCXXX:

ILLUSTRATED BY ENGRAVINGS ON WOOD AND COPPER.

*Sic vos non vobis vellera fertis oves!*

## VOL. III.

Containing the Observations from 1819 to 1830, [those on the Pressure by the Clock Barometer being added,] with copious Notes, Extracts in illustration from other works, and occasional Pieces of Dissertation.

---

LONDON:

HARVEY AND DARTON, GRACECHURCH-STREET;
J. AND A. ARCH, CORNHILL; LONGMAN AND CO. PATERNOSTER ROW;
HATCHARD AND SON, PICCADILLY; S. HIGHLEY, FLEET-STREET;
R. HUNTER, ST. PAUL'S CHURCH-YARD.

1833.

WELLCOME
HISTORICAL
MEDICAL
LIBRARY

LONDON:
JOSEPH RICKERBY, PRINTER,
SHERBOURN LANE.

# TABLE OF CONTENTS.

## VOL. III.


Page

Meteorological Observations made at *Tottenham* and at *Stratford,* near London, in the years 1819—1827..... 1—268

Meteorological Observations made chiefly at *Stratford,* near London, in the years 1828, 1829, and 1830 ..... 269

Addenda: containing some Observations on the Temperature at *Plaistow* in 1806, previous to the original date of the work;—some necessary comparative Results, obtained at *Ackworth* in the years 1828, 1829, and 1830;—and a few Notes of Phenomena observed at *Tottenham* in 1824, and omitted in their places ..... 377


*A Table of Errata faces the General Tables in the First Volume.*

# Meteorological Observations,

MADE AT

# TOTTENHAM,

AND AT

# STRATFORD, NEAR LONDON,

IN THE YEARS

## 1819, 1820, 1821, 1822, 1823, 1824, 1825, 1826, and 1827;

Arranged in *Calendar Months:* and heretofore (in part) published in the *Annals of Philosophy*, and *Philosophical Magazine and Journal.*

| 1819. | | Wind. | By Clock. | | Temp. | | T. No. 2. | | Evap | Hygr. at 9 a. m. | Rain, &c. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Max. | Min. | Max. | Min. | Max. | Min. | | | |
| 7 mo. July | 1 | NW | 29·90 | 29·84 | 65° | 47° | | | — | 59 | |
| | 2 | SW | 29·84 | 29·77 | 70 | 58 | | | — | 62 | 2 |
| | 3 | SW | 29·82 | 29·72 | 80 | 54 | | | 36 | 67 | |
| | 4 | Var. | 29·84 | 29·73 | 86 | 59 | | | — | 63 | 8 |
| | 5 | NW | 29·97 | 29·83 | 85 | 58 | | | 29 | 65 | |
| | 6 | NW | 30·20 | 29·97 | 74 | 56 | | | — | 65 | 52 |
| | 7 | NW | 30·17 | 30·00 | 81 | 55 | | | — | 67 | 7 |
| | 8 | NW | 30·15 | 30·00 | 69 | 53 | | | — | 78 | 3 |
| | 9 | NW | 30·18 | 30·07 | 73 | 48 | | | — | 67 | |
| | 10 | NW | 30·10 | 30·07 | 73 | 51 | | | 44 | 61 | |
| | 11 | NW | 30·12 | 30·07 | 70 | 60 | | | — | 63 | |
| | 12 | NW | 30·22 | 30·12 | 75 | 57 | | | — | 63 | |
| | 13 | NE | 30·20 | 30·18 | 72 | 46 | | | — | 63 | |
| | 14 | NE | 30·13 | 30·00 | 74 | 53 | | | 40 | 65 | |
| | 15 | NE | 30·03 | 30·00 | 72 | 52 | | | — | 67 | |
| | 16 | NE | 30·03 | 30·00 | 78 | 46 | | | — | 64 | |
| | 17 | NW | 30·04 | 29·95 | 77 | 57 | | | 29 | 60 | — |
| | 18 | W | 29·90 | 29·55 | 77 | 56 | | | — | 63 | |
| | 19 | SW | 29·55 | 29·27 | 78 | 59 | | | — | 61 | 23 |
| | 20 | SW | 29·55 | 29·27 | 81 | 51 | | | — | 67 | 50 |
| | 21 | NW | 30·00 | 29·55 | 64 | 47 | | | 50 | 70 | |
| New M. | 22 | NW | 30·20 | 30·00 | 70 | 42 | | | — | 60 | |
| | 23 | N | 30·21 | 30·17 | 82 | 50 | | | — | 58 | |
| | 24 | N | 30·20 | 30·12 | 85 | 52 | | | 40 | 58 | |
| | 25 | SE | 30·07 | 30·03 | 79 | 47 | | | — | 54 | |
| | 26 | NE | 30·18 | 30·03 | 79 | 47 | | | — | 57 | |
| | 27 | N | 30·21 | 30·17 | 77 | 56 | | | 43 | 65 | |
| | 28 | NE | 30·20 | 30·15 | 78 | 52 | | | — | 65 | |
| | 29 | NE | 30·15 | 30·10 | 81 | 53 | | | — | 65 | |
| | 30 | NE | 30·10 | 29·95 | 84 | 57 | | | 54 | 57 | |
| | 31 | NE | 30·03 | 30·02 | 85 | 56 | | | 15 | 57 | |
| | | | 30·22 | 29·27 | 86 | 42 | | | 3·80 | | 1.45 |

Notes.—Sixth Month. 1. Fine. 2. Fine, a. m.: cloudy, p. m.: rain. 3. Fine: *Cumulus.* 4. Fine: *Cumulus, Cirrocumulus.* [Thunder, p. m., at Tunbridge Wells.—T. F.] 5. Fine: *Cirrus.* 6. Rainy: some thunder. 7. Cloudy and fine. 8. Cloudy: some rain. 9. Morning overcast: fine, with *Cirrus*, p. m. 10. Cloudy. 11. Clouds in various modifications: evening overcast. 12. Cloudy: wind NE p. m. 13—17. Fine. 18. Fine: evening overcast. 19. Fine day: rain in the night. 20. Morning fine: noon overcast: wind to NW:

rainy night. 21. Overcast: windy: cold air. 22. Clear morning: *Cirrus, Cirrocumulus.* 23—28. Fine. 29. Overcast: fine, p. m.: *Cirrus, Cirrocumulus.* 30. *Cumulus, Cirrus.* 31. Fine.

## RESULTS.

Winds: N, 1; NE, 9; SE, 1; SW, 4; W, 1; NW, 14.

| | | |
|---|---|---|
| Barometer: | Greatest height | 30·22 in. |
| | Least | 29·27 in. |
| | Mean | 29·988 in. |
| Thermometer: | Greatest height | 86° |
| | Least | 42° |
| | Mean | 64·74° |
| | ——— for 31 days, with the Sun in Cancer | 63·84° |
| Hygrometer, at 9, a. m.: | Dry extreme | 54° |
| | Moist | 78° |
| | Mean | 63° |
| Evaporation for the month | | 3·80 in. |
| Rain | | 1·45 in. |

The rain appears to have fallen chiefly before New and Full Moon, and in nearly equal proportions to each. This is the sum of products afforded by a gauge placed about eight feet above the ground: another *on the ground* gave 1·60 inch, and *this* will be employed in future. The character of the month was decidedly that of fine weather.

A previously cloudy season having kept the sky obscured at night, *a splendid Comet,* which must have been for several days near enough to us to be visible, disclosed the secret of its presence on the night of the 3d, and was scarcely afterwards seen in this neighbourhood to greater advantage than at this its first appearance.

"A late conjecture, that *on the 26th of June the earth was in the direction of the tail of the comet now visible*, is fully confirmed, since the orbit has become better known. The sun, the comet, and the earth, were on the 18th of June in the morning so nearly in a right line, that the comet was to be seen on the sun's disk. According to calculation, the nucleus of the comet entered the sun's southern limb at $5^h\ 22^m$ a. m. true time at Bremen. It was nearest to the centre of the sun 1′ 27″ west, about $7^h\ 13^m$, and issued from the sun's northern limb about $9^h\ 22^m$. The comet during this most remarkable transit was something more than seven millions of German miles distant from the sun, and about fourteen millions of miles from the earth. W. Olbers."—*Bremen, July* 28, 1819.—(Philo. Mag.)

| 1819. | | Wind. | Pressure. | | Temp. | | T. No. 2. | | Evap | Hygr. at 9 a. m. | Rain, &c. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Max. | Min. | Max. | Min. | Max. | Min. | | | |
| 8 mo. Aug. | 1 | NE | 30·05 | 30·04 | 86° | 53° | | | — | 56 | 16 |
| | 2 | NE | 30·04 | 29·97 | 76 | 54 | | | — | 69 | |
| | 3 | NW | 29·97 | 29·96 | 71 | 57 | | | — | 58 | |
| | 4 | NW | 29·97 | 29·97 | 71 | 58 | | | 39 | 62 | |
| | 5 | NW | 30·02 | 29·97 | 69 | 53 | | | — | 68 | |
| | 6 | SW | 30·03 | 30·02 | 80 | 59 | | | — | 63 | — |
| | 7 | NW | 30·11 | 30·03 | 81 | 50 | | | 32 | 63 | |
| | 8 | NW | 30·15 | 30·11 | 76 | 49 | | | — | 54 | |
| | 9 | NW | 30·15 | 30·13 | 81 | 50 | | | — | 57 | |
| | 10 | SE | 30·13 | 30·05 | 79 | 46 | | | 39 | 56 | |
| | 11 | SE | 30·05 | 29·99 | 80 | 49 | | | — | 62 | |
| | 12 | S | 29·99 | 29·97 | 83 | 60 | | | — | 68 | |
| | 13 | W | 30·08 | 29·99 | 78 | 58 | | | — | 58 | |
| | 14 | NW | 30·12 | 30·08 | 78 | 54 | | | 52 | 58 | |
| | 15 | N | 30·20 | 30·12 | 79 | 62 | | | — | 59 | |
| | 16 | N | 30·25 | 30·20 | 79 | 58 | | | — | 57 | |
| | 17 | N | 30·32 | 30·25 | 83 | 60 | | | 48 | 56 | |
| | 18 | N | 30·32 | 30·27 | 77 | 59 | | | — | 60 | |
| | 19 | N | 30·27 | 30·23 | 76 | 58 | | | — | 61 | |
| New M. | 20 | NE | 30·25 | 30·23 | 75 | 55 | | | — | 58 | |
| | 21 | NE | 30·25 | 30·20 | 79 | 59 | | | 47 | 58 | |
| | 22 | NE | 30·20 | 30·16 | 78 | 54 | | | — | 57 | |
| | 23 | NE | 30·16 | 30·11 | 81 | 52 | | | — | 59 | |
| | 24 | NW | 30·11 | 30·02 | 84 | 50 | | | 49 | 56 | |
| | 25 | NE | 30·08 | 30·01 | 81 | 56 | | | — | 53 | |
| | 26 | NE | 30·08 | 30·08 | 74 | 53 | | | — | 54 | |
| | 27 | NW | 30·08 | 30·02 | 75 | 53 | | | 39 | 55 | |
| | 28 | NW | 30·02 | 29·80 | 80 | 51 | | | — | 57 | |
| | 29 | W | 29·80 | 29·38 | 78 | 54 | | | — | 57 | |
| | 30 | SE | 29·38 | 29·20 | 73 | 50 | | | — | 59 | 23 |
| | 31 | W | 29·49 | 29·30 | 67 | 43 | | | 52 | 55 | 2 |
| | | | 30·32 | 29·20 | 86 | 43 | | | 3.97 | | 0·41 |

Notes.—Eighth Mo. 1. Sultry weather: a heavy thunder-storm at three, p. m. from the eastward. 2—5. Fine. 6. A few drops of rain in the afternoon. 7—25. Uninterrupted fine weather during this interval. 26—29. Chiefly cloudy weather. 30. Showery. 31. Showery: some hail in the afternoon. [T. F. *Tunbridge Wells,* Aug. 25. A swift *(Hirundo apus)* still seen—probably only a straggler after the annual migration, which took place about ten days ago. 30. Wind got to SSW, and falling barometer, with the rapid formation of the lighter sorts of cloud over the *Cumuli.* Rain is evidently approaching.]—*Philo. Mag.*

## RESULTS.

Winds: N, 5; NE, 8; SE, 3; S, 1; SW, 1; W, 3; NW, 10.

| | | |
|---|---|---|
| Barometer: | Greatest height | 30·32 in. |
| | Least | 29·20 in. |
| | Mean height | 30·037 in. |
| Thermometer: | Greatest height | 86° |
| | Least | 43° |
| | Mean height | 65·88° |
| | For 31 days with the sun in Leo | 66·60° |
| Hygrometer: | Dry extreme | 53° |
| | Moist | 69° |
| | Mean | 59° |
| Evaporation | | 3·97 in. |
| Rain | | 0·41 in. |

On the 1st of the month, after the thunder-storm, a splendid meteor was seen by several persons at Tottenham, passing from the SE towards the W, letting fall sparks during its progress: the time appears to have been about a quarter before nine in the evening. The prevailing modifications of cloud during this month were the *Cumulus* and *Cirrus*. The *Cirrostratus* was almost banished from the sky, and the *Cumulostratus* appeared but little. The sudden depression of the barometer near the end was followed by 0·35 in. of rain at Tottenham: and although the gale which attended it was very moderate here, the effects were experienced in the north of England, and in Scotland, in a severe storm, denominated indeed by the reporter *a hurricane*, by which several vessels were driven on shore on the coasts of Cumberland and Scotland, and some of them totally lost. [The clock having been again out of order, the observations on the barometer, for this month, are those made at the laboratory.]

*Whitehaven, Aug.* 31*st.*—It has blown a heavy gale all day at NW.—(SHIPPING LIST.)

*Liverpool, Aug.* 31*st.*—It has blown a strong gale the whole of this day, attended with heavy rain.—(SHIPPING LIST.)

# TABLE CLX.

| 1819. | | Wind. | By Clock. | | Temp. | | T. No. 2. | | Evap | Hygr. at 9 a. m. | Rain, &c. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Max. | Min. | Max. | Min. | Max. | Min. | | | |
| 9 mo. Sept. | 1 | NW | 29·68 | 29·50 | 66° | 45° | | | — | 55 | |
| | 2 | NW | 29·72 | 29·60 | 70 | 58 | | | — | 57 | 11 |
| | 3 | W | 29·97 | 29·60 | 76 | 51 | | | — | 91 | 13 |
| | 4 | SW | 30·00 | 29·76 | 74 | 59 | | | 54 | 71 | 8 |
| | 5 | NW | 29·98 | 29·78 | 66 | 47 | | | — | 92 | 5 |
| | 6 | NW | 30·12 | 30·00 | 70 | 48 | | | — | 63 | |
| | 7 | W | 30·12 | 30·05 | 72 | 66 | | | — | 76 | |
| | 8 | SW | 30·15 | 30·13 | 78 | 52 | | | 39 | 69 | |
| | 9 | SW | 30·12 | 30·07 | 79 | 59 | | | — | 69 | |
| | 10 | E | 30·15 | 30·07 | 80 | 45 | | | — | 72 | |
| | 11 | NE | 30·30 | 30·16 | 66 | 55 | | | — | 66 | |
| | 12 | NE | 30·32 | 30·28 | 70 | 39 | | | — | 61 | |
| | 13 | SE | 30·30 | 30·20 | 73 | 42 | | | 50 | 61 | |
| | 14 | SE | 30·20 | 29·85 | 77 | 45 | | | — | 79 | |
| | 15 | E | 29·85 | 29·67 | 82 | 52 | | | — | 67 | 36 |
| | 16 | N | 30·10 | 29·77 | 56 | 42 | | | — | 72 | 9 |
| | 17 | N | 30·22 | 30·10 | 65 | 46 | | | — | 65 | |
| | 18 | W | 30·22 | 30·18 | 70 | 45 | | | 46 | 67 | |
| New M. | 19 | N | 30·37 | 30·20 | 60 | 33 | | | — | 58 | |
| | 20 | N | 30·50 | 30·37 | 63 | 38 | | | — | 65 | |
| | 21 | N | 30·50 | 30·42 | 66 | 36 | | | — | 64 | |
| | 22 | NE | 30·42 | 30·10 | 68 | 46 | | | 40 | 65 | |
| | 23 | NE | 30·10 | 29·80 | 65 | 50 | | | — | 63 | |
| | 24 | E | 29·80 | 29·50 | 68 | 40 | | | — | 68 | 3 |
| | 25 | Var. | 29·60 | 29·46 | 66 | 50 | | | — | 96 | 33 |
| | 26 | SW | 29·70 | 29·50 | 64 | 48 | | | — | 74 | 11 |
| | 27 | W | 29·65 | 29·60 | 65 | 57 | | | — | 74 | 40 |
| | 28 | SW | 29·62 | 29·55 | 67 | 54 | | | — | 77 | 66 |
| | 29 | SW | 29·85 | 29·60 | 66 | 55 | | | — | 90 | 23 |
| | 30 | SW | 29·85 | 29·74 | 69 | 60 | | | 53 | 80 | |
| | | | 30·50 | 29·46 | 82 | 33 | | | 2·82 | | 2·58 |

Notes.—Ninth Mo. 1. Fine. 2. Clouds: rain, evening. 3. Fine: *Cirrus:* rainy evening. 4. Cloudy evening. 5. Rain, morning: fine, p. m. 6, 7. Cloudy. 8. *Cirrocumulus.* 9. *Stratus* in the morning: day cloudy: fair ev. 10—13. Fine. 14. *Stratus,* followed by *Cirrus.* [The *Swans* are observed flying against the wind, which is reckoned here a sure indication of approaching rain. T. F.—*Tunbr. Wells.*] 15. Much dew: *Cirrocumulus.* 16. Rainy morning: fine, p. m.: *Cirrocumulus.* 17—20. Fine. 21. *Cirrocumulus,* with *Cirrostratus.* 22. *Cirrus, Cirrocumulus.* 23. Overcast

sky. 24. *Cirrocumulus.* 25. Rainy. 26—29. Showery. 30. Cloudy. Considerable wind (by night especially) has accompanied the late depression of the barometer. [The surface of the meadows is yet firm, after imbibing the rain which has fallen.]

## RESULTS.

Winds N, 5; NE, 5; E, 2; SE, 2; SW, 7; W, 4; NW, 4; Var. 1.

| | | |
|---|---|---|
| Barometer: | Greatest height | 30·50 in. |
| | Least | 29·46 in. |
| | Mean | 29·968 in. |
| Thermometer: | Greatest height | 82° |
| | Least | 33° |
| | Mean | 59·00° |
| | For 30 days, the sun in Virgo | 60·30° |
| Hygrometer: | Dry extr. | 55° |
| | Moist | 91° |
| | Mean | 70·9° |
| Evaporation | | 2·82 in. |
| Rain | | 2·58 in. |
| Rain at Tottenham | | 2·63 in. |

[The rain, up to the new moon, is again divided between two spaces occupied by the approach of *full and new moon.*] On the 25th, at seven, a. m. I observed at Tottenham two *parhelia,* formed in portions of a large halo, which were seated in a body of haze suspended over a *Nimbus:* they lasted but a few minutes, and were followed by wind and rain.

From the Shipping List it appears that the following vessels were disabled in this month, in the passage from the W. Indies, to N. Brunswick, by storms in the Atlantic, viz.:—The *Chant,* from Barbadoes, in lat. 30, long. 68, on the 25th; the *William,* from Trinidad, in lat. 33, long. 69½, on the 25th; and the *Chatham,* from Antigua, in lat. 37, long. 67, on the 26th. The *barometer,* which had been very high *with us,* underwent a rapid depression, in the space between the 21st and 25th of the month; after which it fluctuated for a week about changeable, and then rose again, with fair weather.

| 1819. | Wind. | By Clock. | | Temp. | | T. No. 2. | | Evap | Hygr. at 9 a. m. | Rain, &c. |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Max. | Min. | Max. | Min. | Max. | Min. | | | |
| 10 mo. Oct. 1 | S | 29·75 | 29·70 | 75° | 57° | | | — | 68 | — |
| 2 | SW | 29·75 | 29·65 | 71 | 57 | | | — | 81 | |
| 3 | S | 29·65 | 29·50 | 69 | 52 | | | — | 75 | — |
| 4 | SW | 30·00 | 29·55 | 66 | 36 | | | — | 74 | 10 |
| 5 | NW | 30·20 | 30·00 | 51 | 39 | | | — | 68 | |
| 6 | W | 30·00 | 29·80 | 56 | 49 | | | 57 | 67 | |
| 7 | W | 30·06 | 29·86 | 61 | 55 | | | — | 79 | |
| 8 | W | 30·05 | 29·80 | 67 | 57 | | | — | 80 | |
| 9 | SW | 29·80 | 29·72 | 67 | 55 | | | — | 76 | |
| 10 | SE | 29·90 | 29·80 | 77 | 54 | | | — | 73 | |
| 11 | E | 30·05 | 29·90 | 77 | 47 | | | 40 | 75 | |
| 12 | SW | 30·06 | 30·00 | 77 | 57 | | | — | 79 | |
| 13 | SE | 30·15 | 30·02 | 68 | 46 | | | — | 84 | |
| 14 | NW | 30·27 | 30·15 | 63 | 44 | | | — | 78 | |
| 15 | NE | 30·30 | 30·28 | 62 | 39 | | | — | 78 | — |
| 16 | NW | 30·28 | 30·12 | 56 | 37 | | | 34 | 79 | |
| 17 | N | 30·30 | 30·20 | 49 | 34 | | | — | 69 | — |
| 18 | N | 30·25 | 30·00 | 56 | 26 | | | — | 72 | |
| New M. 19 | W | 30·00 | 29·50 | 56 | 34 | | | — | 78 | |
| 20 | SW | 29·47 | 29·45 | 58 | 40 | | | — | 83 | 35 |
| 21 | NW | 29·45 | 29·40 | 42 | 30 | | | — | 74 | 70 |
| 22 | NW | 29·45 | 29·28 | 43 | 32 | | | — | 81 | — |
| 23 | W | 29·35 | 29·30 | 51 | 30 | | | 38 | 80 | 2 |
| 24 | N | 29·50 | 29·35 | 48 | 34 | | | — | 69 | |
| 25 | NW | 29·70 | 29·50 | 57 | 27 | | | — | 70 | — |
| 26 | NW | 29·85 | 29·70 | 47 | 22 | | | — | 85 | |
| 27 | NW | | | 45 | 26 | | | — | 77 | 2 |
| 28 | N | | | 50 | 25 | | | — | 68 | — |
| 29 | NE | | | 43 | 35 | | | — | 78 | 26 |
| 30 | NE | | | 48 | 42 | | | — | 80 | 56 |
| 31 | NE | | | 48 | 45 | | | 25 | 98 | 8 |
| | | | | 77 | 22 | | | 1·94 | | 2·09 |

Notes.—Tenth Mo. 1. *Cirrus, Cirrocumulus.* 2. Cloudy. 3, 4. Cloudy: windy. 5. An immense collection of swallows in the evening. 6—8. Overcast. 9—11. Fine, with the lighter modifications. [By T. F.—*Philo. Mag.*—In crossing the channel this evening from Calais to Dover, the captain noticed to me the quantity of *gossamer* on the rigging of the vessel, which he said was a sure sign of fine weather. On the 11th and 12th I noticed this web so abundant, all the way through Kent, by Canterbury and Maidstone to Hartfield, that the fields were quite white with it.] 12. Foggy morning. The aurora borealis is said to have appeared at night. 16. This day the *Cirrus* cloud prevailed in an unusual manner, increasing in density until the oblique depending tufts showed dark

against a completely overcast sky above: the direction of these tufts was towards the west. 17. Fine: aurora borealis in the evening. (This was observed at Tottenham by my friend William Phillips.) 18. The first hoar-frost: the tender garden-plants, as kidney beans, &c. killed. 19. Overcast. 20. Drizzling, p. m. 21. After rain and a little sleet, it began to *snow* about *noon*, falling in very large flakes, thick and rapidly for an hour, and covering the ground: some rain followed. In the evening the wind rose, and it blew hard in the night from about NNW. At midnight came on a second heavy fall of snow, which continued till six, a. m. the 22d; and though at first much of it melted, it lay in the morning full three inches deep. This day, of course, presented the appearance of mid-winter, with the single exception of the foliage still remaining on the trees, which, mingled with an enormous burden of snow, presented a very singular and grotesque appearance. The somewhat moist state of the snow (as happens also when it falls late in the spring) caused it to be very adhesive, and the frost cementing the masses, the very walls and fences remained thickly coated for some hours; while that on the trunks of trees indicated with precision the quarter from whence it came. Much damage was done by the breaking down of large limbs from fruit and forest trees in all directions. 23. Snow remained in places the whole of the day; notwithstanding which I observed *swallows* about at Stamford Hill. 24. A very white frost this morning: temp. 31° at eight, a. m. at Tottenham: day, windy, bleak, cloudy. 27, 28. Hoar frost. 30, 31. Rainy. [The heights of the barometer, which are wanting in the observations by the clock, were noted as follows:—For the 27th, 29·87—29·84. 28th, 29·84—29·68. 29th, 29·68—29·65. 30th, 29·88—29·65. 31st, 29·90—29·88 in.]

## RESULTS.

Winds: N, 3; NE, 4; E, 1; SE, 2; S, 2; SW, 5; W, 5; NW, 9.

| | | |
|---|---|---|
| Barometer: | Greatest height | 30·30 in. |
| | Least | 29·28 in. |
| | Mean | 29·823 in. |
| Thermometer: | Greatest height | 77° |
| | Least | 22° |
| | Mean | 49·47° |
| | For 31 days, the sun in Libra | 54·34° |
| Hygrometer: | Dry extreme | 67° |
| | Moist | 98° |
| | Mean | 76° |
| Evaporation | | 1·94 in. |
| Rain | | 2·09 in. |
| By a second gauge | | 2·18 in. |

The heavy snow-storm of the 21st was preceded by a fall of the barometer of less continuance, but more rapid, than that noticed in the last month. The storms of wind from different quarters, occurring about the time, appear to have been heavy: some notices of them, found in the papers, seem to prove the large mixture of moist and freezing currents necessary to the formation of so much snow, thus early in the season.

| 1819. | | Wind. | By Clock. | | Temp. | | T. No. 2. | | Evap | Hygr. at 9 a. m. | Rain, &c. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Max. | Min. | Max. | Min. | Max. | Min. | | | |
| 11 mo. Nov. | 1 | NE | | | 48° | 36° | | | — | 98 | 2 |
| | 2 | NW | | | 49 | 32 | | | — | 90 | |
| | 3 | NW | | | 46 | 33 | | | — | 71 | |
| | 4 | W | | | 54 | 43 | | | — | 68 | |
| | 5 | SW | | | 55 | 44 | | | — | 66 | 8 |
| | 6 | SW | | | 50 | 42 | | | — | 76 | |
| | 7 | W | | | 51 | 29 | | | 39 | 67 | 5 |
| | 8 | NW | | | 44 | 26 | | | — | 74 | |
| | 9 | NW | | | 46 | 30 | | | — | 70 | 11 |
| | 10 | NW | | | 51 | 42 | | | — | 100 | 11 |
| | 11 | NE | 30·00 | 29·80 | 42 | 37 | | | — | 86 | 4 |
| | 12 | NE | 29·95 | 29·80 | 47 | 41 | | | — | 80 | — |
| | 13 | NE | 29·80 | 29·78 | 46 | 40 | | | — | 74 | |
| | 14 | N | 29·79 | 29·65 | 46 | 40 | | | — | 81 | |
| | 15 | W | 29·65 | 29·42 | 47 | 39 | | | — | 96 | 54 |
| | 16 | NW | 29·75 | 29·42 | 42 | 36 | | | — | 100 | 52 |
| New M. | 17 | E | 29·95 | 29·75 | 44 | 40 | | | 36 | 97 | 3 |
| | 18 | NE | 30·00 | 29·90 | 45 | 30 | | | — | 70 | |
| | 19 | NE | 29·90 | 29·30 | 38 | 32 | | | — | 80 | |
| | 20 | NW | 29·30 | 29·05 | 43 | 32 | | | — | 69 | 15 |
| | 21 | NW | 29·52 | 29·20 | 43 | 28 | | | — | 74 | — |
| | 22 | NW | 29·80 | 29·52 | 40 | 26 | | | — | 77 | |
| | 23 | NW | 30·02 | 29·80 | 37 | 21 | | | — | 72 | |
| | 24 | NW | 30·02 | 29·70 | 40 | 26 | | | — | 81 | |
| | 25 | NW | 29·87 | 29·64 | 34 | 23 | | | — | 91 | |
| | 26 | NW | 29·93 | 29·87 | 41 | 31 | | | — | 100 | |
| | 27 | NW | 29·90 | 29·55 | 39 | 24 | | | — | 99 | |
| | 28 | SW | 29·67 | 29·53 | 49 | 31 | | | — | 100 | 17 |
| | 29 | SW | 29·65 | 29·50 | 53 | 44 | | | — | 100 | 8 |
| | 30 | SW | 30·08 | 29·55 | 54 | 47 | | | 40 | 100 | 22 |
| | | | 30·08 | 29·05 | 55 | 21 | | | 1·15 | | 2·12 |

Notes.—Eleventh Mo. 1. Overcast. 2. *Cirrus, Cirrocumulus, Cirrostratus.* 3. Fine. 4. Cloudy: lunar halo. 5. Overcast: lunar halo. 6. *Cirrus, Cirrocumulus:* lunar halo. 7. Cloudy: rain. 8. Fine: *Cirrus.* 9. Fine: a swallow seen this morning. 10. Rain. 11. Gloomy: drizzling. 12, 13. Cloudy. 14, 15. Gloomy. 16. Rainy. 17. Drizzling. 18, 19. Cloudy. 20. Fine day: rainy evening. 21. Overcast: windy. 22. Fine. 23, 24. Hoar frost in the mornings: misty. 25. Foggy day: lunar halo. 26. The roads and footpath coated with ice: cloudy: snow at night. 27. Misty: much rime on the trees: some snow early this morning. 28. Hoar frost: misty: rain at night. 29. Very moist air: a condensation on the *outside* of the windows: rain, with wind. 30. Rain. The observations on the barometer wanting, are to be supplied as follows, as taken from the common barometer, viz.—For the 1st, 29·86—29·80: 2d, 29·93—

29·81: 3d, 30·04—29·93: 4th, 29·93—29·84: 5th, 29·84—29·64: 6th, 29·64—29·44: 7th, 29·65—29·45: 8th, 29·92—29·65: 9th, 29·92—29·38: 10th, 29·65—29·38.

## RESULTS.

Winds: N, 1; NE, 6; E, 1; SW, 5; W, 3; NW, 14.

| | | |
|---|---|---|
| Barometer: | Greatest height | 30·08 in. |
| | Least | 29·05 in. |
| | Mean | 29·717 in. |
| Thermometer: | Greatest height | 55° |
| | Least | 21° |
| | Mean | 39·81° |
| | For 30 days, the sun in Scorpio | 40·61° |
| Hygrometer: | Dry extreme | 69° |
| | Moist | 100° |
| | Mean | 83° |
| Evaporation | | 1·15 in. |
| Rain | | 2·12 in. |
| Rain at Tottenham | | 2·00 in. |

*Large Meteor. Tottenham, Eleventh Month*, 18.—About ten minutes past five, p. m. a brilliant meteor appeared in the west: it was first seen descending with a slow and steady motion towards the north. It showed much larger than the planet Venus—a yellow flame rather drawn out behind, and burning quietly without sparks. When the combustion ceased, there remained a matter faintly luminous, which gradually became extinct as it passed below the westermost stars of Ursa Major. The twilight was pretty strong in the southwest at the time.

### PRÆTURNATURAL VEGETATION.

Some of the horse-chesnut trees on our green (at Tottenham) have this year exhibited a pretty complete double vegetation. The trees in question are rather unhealthy, and towards the decline of the summer, after having flowered abundantly and perfected the fruit, they shed their leaves, which had been spoiled by the drought and dust. Immediately on feeling the effect of the rains about the autumnal equinox, they put forth leaves and blossoms a second time, exhibiting for several weeks a very singular and pleasing contrast to the now mature and brownish foliage of the more healthy individuals of the same species. The new fruit set pretty well even on the branches on which the old remained; and was as large as a pea, when the premature approach of winter, shortening the duration of the autumnal season, brought down both new and old, with the foliage remaining on the respective trees, together.

*Keswick, 28th Nov.*—The weather for twelve years past has never been so severe in Nov. as of late. Snow first fell on the tops of the hills, visible from hence, as early as the 4th of October. On the 21st, a more extensive fall of snow took place, and continued at intervals until noon of the next day, accompanied by a smart frost.—On the night of the 28th it was so severe as to freeze the milk in several farmer's houses in the higher vallies of this district.—(Philo. Mag.)

*St. Petersburgh, Nov.* 6.—The winter has just set in with some severity, and rather earlier than usual.

*Hamburgh, Nov.* 30.—A severe frost set in the day before yesterday—there is a great deal of floating ice in the rivers.—(Papers.)

| 1819. | Wind. | By Clock. | | Temp. | | T. No.2. | | Evap | Hygr. at 9 a. m. | Rain, &c. |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Max. | Min. | Max. | Min. | Max. | Min. | | | |
| 12 mo. Dec. 1 | NW | 30·10 | 29·90 | 49° | 31° | | | — | 99 | |
| 2 | SW | 30·20 | 29·90 | 50 | 25 | | | — | 88 | — |
| 3 | SW | 30·20 | 29·50 | 44 | 25 | | | — | 100 | — |
| 4 | SW | 29·90 | 29·50 | 48 | 38 | | | — | 100 | 60 |
| 5 | NE | 30·08 | 29·95 | 41 | 34 | | | — | 79 | |
| 6 | NE | 30·10 | 29·98 | 37 | 33 | | | — | 81 | — |
| 7 | NE | 30·10 | 29·97 | 35 | 28 | | | — | 89 | |
| 8 | E | 30·10 | 30·00 | 30 | 18 | | | — | 73 | |
| 9 | NE | 30·00 | 29·87 | 30 | 23 | | | — | 68 | — |
| 10 | N | 30·01 | 29·92 | 33 | 10 | | | — | 87 | |
| 11 | SW | 30·01 | 29·87 | 31 | 13 | | | — | 84 | |
| 12 | SW | 29·87 | 29·70 | 38 | 13 | | | — | 75 | — |
| 13 | SW | 29·70 | 29·55 | 36 | 20 | | | — | 88 | — |
| 14 | SW | 29·55 | 29·40 | 37 | 23 | | | — | 92 | — |
| 15 | W | 29·90 | 29·40 | 38 | 29 | | | — | 80 | |
| 16 | NW | 30·02 | 29·50 | 41 | 27 | | | — | 85 | 41 |
| New M. 17 | SE | 29·50 | 29·29 | 53 | 38 | | | — | 98 | 44 |
| 18 | SW | 29·82 | 29·45 | 55 | 50 | | | — | 100 | — |
| 19 | SW | 29·77 | 29·63 | 54 | 52 | | | — | 99 | 15 |
| 20 | SW | 30·00 | 29·63 | 56 | 44 | | | — | 100 | |
| 21 | Var. | 29·85 | 29·70 | 52 | 41 | | | 56 | 84 | 49 |
| 22 | SW | 29·70 | 29·18 | 54 | 48 | | | — | 95 | 31 |
| 23 | NW | 29·35 | 29·27 | 49 | 29 | | | — | 91 | |
| 24 | SW | 29·40 | 29·25 | 36 | 24 | | | — | 96 | |
| 25 | NW | 29·50 | 29·40 | 34 | 21 | | | — | 85 | |
| 26 | SW | 29·50 | 29·43 | 32 | 23 | | | — | 81 | |
| 27 | SE | 29·44 | 29·42 | 34 | 27 | | | — | 85 | |
| 28 | NE | 29·60 | 29·43 | 35 | 23 | | | — | 89 | — |
| 29 | N | 29·60 | 29·40 | 32 | 19 | | | — | 96 | |
| 30 | SW | 29·40 | 29·27 | 32 | 17 | | | — | 92 | |
| 31 | SW | 29·42 | 29·26 | 33 | 11 | | | 23 | 86 | 5 |
| | | 30·20 | 29·18 | 56 | 10 | | | 0·79 | | 2·45 |

Notes.—Twelfth Mo. 1. Cloudy. 2. Rainy morning. 3. Hoar frost: fine day. 4. Rainy morning and evening. 5, 6. Overcast. 7. Some snow this morning: much wind at night. 8. Fine: windy: thermometer at Tottenham, 16°. 9. Snow in the night, covering the ground above an inch deep. 10. *Cirrus, Cirrocumulus:* fine: thermometer at Tottenham, 8°. 11. Very foggy morning: gloomy day. 12. Morning, fine: snow and sleet, p. m. 13. A little sleet: about six, p. m. a shower of rain, after which it began to freeze again. 14. *Cirrocumulus:* fine. 15. Foggy morning: a thaw com-

menced about 10, a. m. and went on till about the same hour, p. m. 16. Foggy: frost continued through the day, but at night it was very stormy, with rain from the S and SE. 17. Rainy. 18—20. Cloudy and gloomy. 21. Rain. 23. *Cirrus, Cirrostratus, Cumulostratus.* 24—27. Hoar frosts: fair. 28. A pretty considerable fall of snow, leaving an inch depth on the ground, after in part melting as it fell. 29—31. Fine: *Cirrus:* snow on the ground.

## RESULTS.

Winds: N, 2; NE, 5; E, 1; SE, 3; SW, 14; W, 1; NW, 4; Var. 1.

| | | |
|---|---|---|
| Barometer: | Greatest height | 30·20 in. |
| | Least | 29·18 in. |
| | Mean | 29·687 in. |
| Thermometer: | Greatest height | 56° |
| | Least | 10° |
| | Mean | 34·12° |
| | For 30 days in Sagittarius | 36·65° |
| Hygrometer: | Dry extreme | 68° |
| | Moist | 100° |
| | Mean | 88·54° |
| Evaporation | | 0·79 in. |
| Rain | | 2·45 in. |
| By a second gauge | | 2·48 in. |
| And at Tottenham | | 2·64 in. |

The mean temperature of the month at Tottenham, with three days' observations, in different parts supplied from the above table, is 33·56°. The thermometer at Tottenham has rather the more open exposure of the two. A fine exhibition of the *Aurora Borealis* was observed there between 11 and 12, p. m. on the 14th.

*Hamburgh, Dec.* 7.—Since yesterday a very intense frost has set in, and the navigation is thereby shut up for the present.

*Bremen, Dec.* 10.—There have not been any arrivals here these four days, owing to a severe frost having set in.

*Sheerness, Dec.* 9.—The whole of yesterday, and this, it blew very strong from E to NE, with heavy squalls of wind and snow.

*Deal, Dec.* 17.—The wind this morning got out to S by E, and blows hard still.

*Penzance, Dec.* 17.—It blew a gale all last night from S to SW, with rain.

*Kirkwall, Dec.* 21.—We have had one of the most violent storms from the SE quarter that has been known here for many years.

*Brixham, Torbay, Dec.* 28.—Early yesterday the wind shifted from SW to SSE, and has continued with great violence.—(Shipping List.)

| 1820. | | Wind. | By Clock. | | Temp. | | T. No. 2. | | Evap | Hygr. at 9 a. m. | Rain, &c. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Max. | Min. | Max. | Min. | Max. | Min. | | | |
| 1st mo. Jan. | 1 | NW | 29·60 | 29·45 | 30° | 15° | | | — | 86 | |
| | 2 | SW | 29·75 | 29·22 | 39 | 29 | | | — | 75 | — |
| | 3 | NW | 30·07 | 29·75 | 33 | 18 | | | — | 92 | |
| | 4 | SW | 30·17 | 30·06 | 26 | 14 | | | — | 92 | |
| | 5 | NW | 30·17 | 30·10 | 29 | 17 | | | — | 98 | |
| | 6 | W | 30·40 | 30·12 | 35 | 27 | | | — | 98 | |
| | 7 | E | 30·55 | 30·40 | 33 | 22 | | | — | 81 | — |
| | 8 | NE | 30·70 | 30·55 | 30 | 20 | | | — | 72 | — |
| | 9 | NE | 30·65 | 30·30 | 32 | 16 | | | — | 71 | — |
| | 10 | NE | 30·40 | 29·80 | 29 | 21 | | | — | 76 | — |
| | 11 | SW | 30·07 | 29·62 | 34 | 25 | | | — | 100 | — |
| | 12 | E | 30·22 | 30·07 | 27 | 8 | | | — | 85 | — |
| | 13 | NW | 30·24 | 30·12 | 29 | 17 | | | — | 85 | — |
| | 14 | E | 30·24 | 29·75 | 24 | 0 | | | — | 73 | — |
| New M. | 15 | NE | 29·75 | 29·62 | 29 | 2 | | | — | 71 | |
| | 16 | NW | 29·71 | 29·52 | 32 | 18 | | | — | 87 | |
| | 17 | SW | 29·52 | 29·30 | 37 | 27 | | | — | 98 | |
| | 18 | NE | 29·30 | 28·69 | 47 | 28 | | | — | 99 | 1·15 |
| | 19 | SW | 29·58 | 28·69 | 48 | 27 | | | — | 96 | |
| | 20 | NW | 29·58 | 29·04 | 37 | 24 | | | — | 77 | — |
| | 21 | Var. | 30·10 | 29·12 | 38 | 20 | | | — | 77 | — |
| | 22 | N | 30·20 | 30·01 | 32 | 13 | | | — | 70 | |
| | 23 | SW | 30·01 | 29·70 | 39 | 31 | | | — | 76 | |
| | 24 | SW | 29·83 | 29·67 | 45 | 38 | | | 41 | 79 | 38 |
| | 25 | SE | 29·70 | 29·24 | 47 | 39 | | | — | 100 | 13 |
| | 26 | SW | 29·60 | 29·50 | 50 | 44 | | | — | 100 | 7 |
| | 27 | SW | 29·55 | 29·30 | 52 | 40 | | | — | 83 | — |
| | 28 | Var. | 30·20 | 29·55 | 45 | 37 | | | — | 100 | |
| | 29 | NW | 30·17 | 30·02 | 45 | 37 | | | — | 94 | — |
| | 30 | SW | 30·02 | 29·97 | 46 | 40 | | | — | 100 | |
| | 31 | SW | 30·01 | 29·90 | 48 | 30 | | | 30 | 82 | 10 |
| | | | 30·70 | 28·69 | 52 | 0 | | | 0·71 | | 1·83 |

Notes.—First Mo. 1. Hoar frost: cloudy. 2. Much rime on the trees: rainbow: thaw: rainy. 3. Fair: *Cirrocumulus:* some snow this morning. 4. Hoar frost: foggy. 5. Very dense fog, mixed with the smoke of the city, a. m.: much rime on the trees, and hoar frost permanent. 6. Hoar frost and fog a. m.: misty evening: slight thaw. 7. Clear and very cold: a little snow about 11, p. m. 8. Fine clear morning: barometer [*Stratford*] 30·62 in. at 9, a. m.: some snow ev. 9. Barometer, 30·81 in. at 9, a. m.: some snow in the forenoon at temp. 26°. 11. Snow last night and this morning to about an inch depth. 12, 13. Snowy. At Tottenham

the snow was observed to fall in very regular stellar crystals, and the feathered tribes appeared to suffer greatly from cold and hunger. 14. A brilliant *aurora borealis* between 11 and 12, p. m. from NW to N. 15. The temperature at sun-rise was, by the thermometer at Tottenham, about half a degree below *zero*. The thermometer at the laboratory, and another at Bromley, within a short distance, indicated *zero* as the minimum. The observation at 2° relates to the temperature at 9, a. m.: at 10, it was 3°; at 11, 5°; at 12, 7°; at half-past 2, p. m. 18°; at 6, 21°; at half-past 7, 25°. During this time the barometer fell two-tenths of an inch: the sky was overcast. 16. Very fine day. Temperature at 9, a. m. 19°; at 11, 26°; at 2, p. m. 24°; at 5, 21°; at 9, 25°. 17. Foggy morning: gentle thaw, followed by frost at night. 18. Snow from half-past 4, a. m. to the depth of about two inches: thaw began about 10, a. m.: night rainy and boisterous. 19. Snow nearly gone this morning: the river full of floating ice of great thickness. 20. Froze again about 4, a. m. The river much swollen, and an immense quantity of drift ice: about 6, p. m. began a heavy fall of snow, carried by a wind from E and SE: about four inches in depth fell. 21. A gentle thaw: wind gone down: snowy, p. m. and sharp frost at night: the river still blocked up with ice. 22. The barometer has risen 0·94 in. in the last 24 h.: very fine morning. 23. Hoar frost: lunar halo and corona at night. 25. Very stormy night. 26. A complete overflowing of the river: the marshes form one continuous sheet of water. 27. Fine a. m.: wet evening. 28—30. Cloudy. 31. *Cirrocumulus*.

## RESULTS.

Winds: N, 1; NE, 5; E, 3; SE, 1; SW, 11; W, 1; NW, 7; Var. 2.

| | | |
|---|---|---|
| Barometer: | Greatest height | 30·70 in. |
| | Least | 28·69 in. |
| | Mean | 29·80 in. |
| Thermometer: | Greatest height | 52° |
| | Least | 0° |
| | Mean | 30·50° |
| | For 30 days, the sun in Capricorn | 27·47° |
| Hygrometer: | Dry extreme | 71° |
| | Moist | 100° |
| | Mean | 86° |
| Evaporation | | 0·71 in. |
| Rain | | 1·83 in. |

It is stated by Dr. Forster, in a communication to the Editor of the *Philo. Mag.* that the thermometer fell in the morning of the 15th of this month, at *Hartfield*, to —10; and that it was observed at 10 p. m., the 14th, at —2; at midnight at —3; at 2, a. m. at —5; after which it attained the minimum already mentioned. Supposing no error, here is probably an effect of a freer radiation.

In the same publication, the rain and evaporation for the three past years, at Croydon and Croom's Hill, are stated by my friend Henry Lawson as follows:—For 1817, rain 25·349 in. evap. 22·227 in. For 1818, rain 24·252 in. evap. 27·064 in. For 1819, rain 27·339 in. evap. 21·369 in.

| 1820. | | Wind. | By Clock. | | Temp. | | T. No. 2. | | Evap | Hygr. at 9 a. m. | Rain, &c. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Max. | Min. | Max. | Min. | Max. | Min. | | | |
| 2 mo. Feb. | 1 | SE | 29·90 | 29·80 | 45° | 22° | | | — | 96 | |
| | 2 | E | 29·98 | 29·80 | 46 | 27 | | | — | 97 | |
| | 3 | NE | 30·02 | 29·98 | 36 | 30 | | | — | 93 | |
| | 4 | SW | 30·01 | 29·90 | 40 | 27 | | | — | 80 | |
| | 5 | SE | 29·90 | 29·77 | 45 | 38 | | | — | 92 | — |
| | 6 | Var. | 30·10 | 29·85 | 48 | 38 | | | — | 93 | |
| | 7 | W | 30·13 | 30·10 | 51 | 38 | | | — | 99 | |
| | 8 | SW | 30·13 | 29·90 | 47 | 35 | | | — | 88 | |
| | 9 | S | 29·95 | 29·78 | 53 | 35 | | | — | 99 | |
| | 10 | W | 30·13 | 29·95 | 50 | 29 | | | — | 99 | — |
| | 11 | NW | 30·05 | 29·80 | 49 | 35 | | | — | 93 | 10 |
| | 12 | W | 30·03 | 29·93 | 43 | 38 | | | — | 95 | 5 |
| | 13 | SE | 30·20 | 29·97 | 46 | 27 | | | — | 75 | |
| New M. | 14 | N | 30·31 | 30·20 | 45 | 30 | | | — | 97 | |
| | 15 | NE | 30·31 | 30·25 | 38 | 24 | | | — | 91 | |
| | 16 | NW | 30·25 | 30·05 | 38 | 18 | | | — | 73 | |
| | 17 | NE | 30·10 | 30·05 | 35 | 15 | | | 55 | 83 | |
| | 18 | NE | 30·10 | 30·03 | 36 | 23 | | | — | 87 | — |
| | 19 | NE | 30·06 | 29·80 | 36 | 23 | | | — | 93 | — |
| | 20 | Var. | 29·91 | 29·75 | 37 | 27 | | | — | 95 | — |
| | 21 | SW | 29·82 | 29·70 | 43 | 29 | | | — | 100 | 60 |
| | 22 | NW | 29·80 | 29·52 | 50 | 34 | | | — | 100 | 3 |
| | 23 | SE | 29·52 | 29·35 | 53 | 37 | | | — | 96 | — |
| | 24 | SW | 29·40 | 29·30 | 42 | 34 | | | — | 97 | 13 |
| | 25 | NE | 30·00 | 29·40 | 41 | 33 | | | — | 95 | 8 |
| | 26 | NE | 30·12 | 30·00 | 36 | 29 | | | — | 91 | |
| | 27 | NE | 30·10 | 29·96 | 38 | 26 | | | — | 71 | |
| | 28 | NE | 29·96 | 29·80 | 40 | 20 | | | — | 78 | |
| | 29 | SW | 29·80 | 29·40 | 42 | 24 | | | 35 | 99 | 2 |
| | | | 30·31 | 29·30 | 53 | 15 | | | 0·90 | | 1·01 |

Notes.—Second Mo. 1. Hoar frost: very fine day. 3—6. Cloudy. 7, 8. Fine. 9. *Cirrocumulus:* fine. 10. Foggy morning: drizzly. 11, 12. Cloudy: some rain. 13. Very fine morning. 14, 15. Fine. 16. Hoar frost: misty: then fine, with *Cirrocumulus.* 17, 18. Hoar frosts: clear, a. m. 19. Overcast: some snow in the evening. 20. Ground covered with snow this morning from two to three inches in depth: it continued to snow, with very little intermission through the day. 21. Foggy morning, with thaw: about five inches of snow on the ground. 22—24. Overcast. 25. Overcast: windy. 26. Bleak wind. 27. Fine. 28, 29. Hoar frost: fine, with *Cirrocumulus.*

## RESULTS.

Winds: N, 1; NE, 9; E, 1; SE, 4; S, 1; SW, 5; W, 3; NW, 3; Var. 2.

| | | |
|---|---|---|
| Barometer: | Greatest height | 30·31 in. |
| | Least | 29·30 in. |
| | Mean | 29·903 in. |
| Thermometer: | Greatest height | 53° |
| | Least | 15° |
| | Mean | 36·10° |
| | For 30 days, the sun in Aquarius | 37·28° |
| Hygrometer: | Dry extreme | 71° |
| | Moist | 100° |
| | Mean | 91° |
| Evaporation | | 0·90 in. |
| Rain | | 1·01 in. |
| Mean temperature at Tottenham | | 36·83° |
| Hygrometer at ditto | | 81° |
| Rain at ditto | | 1·27 in. |

The winter may be considered as having ended with the deep snow on the 20th, followed by a thaw on the 21st.: this snow occurred just sixty days after the shortest day; and the snow on the 21st of tenth month, 1819, was just sixty days before it: thus the winter may be said to have lasted (in effect) a hundred and twenty days, with some mild intervals, the solstice being in the midst of the time.

### Fall of a Glacier.

On the 27th Dec. 1819, about 6 a. m. a part of the glacier of the *Weisshorn*, in the valley of Vispach, in Switzerland, fell from a height of several thousand feet into the valley, covering with the ruins a space of about two thousand four hundred by one thousand feet, on the pastures below the village of *Randa*. And though the snow and ice fell clear of the village itself, such was the effect of so great a mass of matter in so swift a motion, that a blast of air, caused by the pressure, swept away many buildings with their contents, and buried twelve persons in the ruins; all but two of whom, however, escaped with their lives. At the moment when the falling mass struck, with a noise like thunder, on the lower part of the glacier, *several persons perceived a strong light,* which immediately vanished, and every thing was again enveloped in the darkest night. This light was undoubtedly caused by the friction of the masses of ice upon each other, and was consequently *electrical.*

| 1820. | | Wind. | By Clock. | | Temp. | | T. No. 2. | | Evap | Hygr. at 9 a. m. | Rain, &c. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Max. | Min. | Max. | Min. | Max. | Min. | | | |
| 3d mo. Mar. | 1 | NW | 29·50 | 28·70 | 45° | 31° | | | — | 69 | 16 |
| | 2 | NW | 29·80 | 29·00 | 35 | 27 | | | — | 83 | — |
| | 3 | NW | 29·97 | 29·80 | 37 | 26 | | | — | 73 | — |
| | 4 | NE | 30·22 | 29·98 | 38 | 26 | | | — | 82 | |
| | 5 | NE | 30·25 | 30·15 | 38 | 22 | | | — | 66 | — |
| | 6 | N | 30·18 | 30·10 | 37 | 21 | | | — | 74 | |
| | 7 | N | 30·25 | 30·10 | 39 | 31 | | | — | 77 | — |
| | 8 | NE | 30·23 | 30·12 | 44 | 26 | | | — | 81 | |
| | 9 | W | 30·12 | 29·75 | 49 | 30 | | | — | 78 | |
| | 10 | S | 29·75 | 29·53 | 47 | 26 | | | — | 78 | |
| | 11 | SE | 29·53 | 29·40 | 55 | 28 | | | — | 97 | |
| | 12 | SE | 29·55 | 29·33 | 47 | 36 | | | — | 69 | |
| | 13 | NW | 30·10 | 29·55 | 53 | 32 | | | — | 75 | |
| New M. | 14 | SW | 30·25 | 30·10 | 58 | 47 | | | 55 | 88 | |
| | 15 | NW | 30·40 | 30·25 | 53 | 43 | | | — | 84 | |
| | 16 | SW | 30·35 | 30·24 | 55 | 29 | | | — | 98 | |
| | 17 | NW | 30·37 | 30·24 | 52 | 32 | | | — | 99 | |
| | 18 | NE | 30·30 | 30·19 | 51 | 32 | | | — | 84 | |
| | 19 | NE | 30·25 | 30·19 | 46 | 32 | | | — | 70 | — |
| | 20 | NE | 30·20 | 29·99 | 48 | 30 | | | — | 79 | |
| | 21 | NW | 29·98 | 29·68 | 51 | 39 | | | 57 | 74 | |
| | 22 | N | 29·62 | 29·10 | 55 | 44 | | | — | 67 | 13 |
| | 23 | NW | 29·10 | 28·90 | 53 | 39 | | | — | 67 | — |
| | 24 | Var. | 29·20 | 28·76 | 52 | 33 | | | — | 67 | — |
| | 25 | N | 29·73 | 29·20 | 49 | 26 | | | — | 64 | |
| | 26 | SW | 29·75 | 29·57 | 52 | 43 | | | — | 62 | 5 |
| | 27 | SW | 29·99 | 29·75 | 55 | 45 | | | — | 91 | 3 |
| | 28 | W | 30·10 | 29·99 | 61 | 47 | | | 56 | 86 | |
| | 29 | SW | 30·04 | 29·90 | 62 | 33 | | | — | 78 | |
| | 30 | NW | 30·01 | 29·90 | 63 | 29 | | | — | 76 | |
| | 31 | Var. | 30·00 | 29·90 | 63 | 38 | | | 34 | 79 | |
| | | | 30·40 | 28·70 | 63 | 21 | | | 2·02 | | 0·37 |

Notes.—Third Mo. 1. Cloudy: a strong gale of wind during the night. 2. High wind continues: some snow about 7, a. m.: very stormy night: much damage was done on this and the preceding night to buildings and garden-walls in this neighbourhood. 3. The wind still very high from NW, though a fine clear morning. 4. Fine morning: *Cirrus*. 5. Fine. 6. Some snow in the morning. 7. Snow in the night. 8—10. Fine. 11, 12. Hoar-frost. 13. Cloudy: fine. 14—17. Overcast. 17. Thick fog. 18—20. Cloudy. 21. Lunar halo and corona at night, followed by wind

and rain. 22. Cloudy and fine. 23. Windy. 24, 25. Cloudy. 26. Hoar-frost: showery. 27. Cloudy: light showers. 29. Fine: the lunar eclipse very well seen: a *Stratus* at night afterwards. 30. Fine: *Cirrocumulus: Cirrus.* 31. Hoar-frost: fine.

## RESULTS.

Winds: N, 4; NE, 6; SE, 3; S, 1; SW, 5; W, 2; NW, 8; Var. 2.

| | | |
|---|---|---|
| Barometer: | Greatest height | 30·40 in. |
| | Least | 28·70 in. |
| | Mean | 29·819 in. |
| Thermometer: | Greatest height | 63° |
| | Least | 21° |
| | Mean | 41·38° |
| | For 30 days, the sun in Pisces | 37·17° |
| Hygrometer: | Dry extreme | 62° |
| | Moist | 99° |
| | Mean | 78° |
| Evaporation | | 2·02 in. |
| Rain | | 0·37 in. |

The mean temperature of this month at *Tottenham* (two days being supplied from the above observations) was 41·30°. The rain there was 0·53: the mean of the *hygrometer,* 64°. The general atmosphere of the district, I suspect, was, in point of humidity, between the two: the instruments and their exposures differ too much to be fairly comparable.

The rapid rise of the barometer, in the interval between the morning of the 2d and that of the 3d of the month, was the result of a very heavy northerly gale; the springing up of which appears, by accounts from various places on our own coasts, on that of France, and in Holland, to have been sudden, and nearly coincident in time with the turning of the barometer to rise, from a still more rapid fall, occupying about eight hours of the preceding night. The southerly wind, which must have been connected with this fall, either blew in a space distant from the observer, or being in the night, escaped notice. It is observable that at Cuxhaven, near 9° to the eastward, they appear to have felt nothing of this gale, on the day on which it blew so hard with us. The fall of snow which attended it, does not seem to have reached our *south* coast.

| 1820. | | Wind. | By Clock. | | Temp. | | T. No. 2. | | Evap | Hygr. at 9 a. m. | Rain, &c. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Max. | Min. | Max. | Min. | Max. | Min. | | | |
| 4 mo. April | 1 | SW | 30·03 | 29·90 | 62° | 45° | | | — | 87 | |
| | 2 | NW | 30·17 | 30·00 | 66 | 49 | | | — | 74 | |
| | 3 | N | 30·15 | 29·80 | 64 | 36 | | | — | 79 | |
| | 4 | SE | 29·80 | 29·63 | 65 | 31 | | | — | 73 | |
| | 5 | Var. | 29·63 | 29·30 | 72 | 45 | | | 57 | 68 | 21 |
| | 6 | SW | 29·41 | 29·30 | 56 | 32 | | | — | 89 | 11 |
| | 7 | SW | 29·42 | 29·15 | 52 | 31 | | | — | 75 | |
| | 8 | SW | 29·30 | 29·10 | 54 | 44 | | | — | 76 | — |
| | 9 | NW | 29·43 | 29·30 | 52 | 28 | | | — | 86 | 10 |
| | 10 | SE | 29·50 | 29·25 | 52 | 46 | | | — | 88 | 14 |
| | 11 | SW | 29·70 | 29·50 | 59 | 45 | | | 45 | 89 | 17 |
| New M. | 12 | SE | 29·85 | 29·80 | 59 | 44 | | | — | 81 | — |
| | 13 | NE | 29·80 | 29·50 | 53 | 45 | | | — | 93 | 32 |
| | 14 | NE | 29·80 | 29·52 | 55 | 39 | | | — | 96 | 25 |
| | 15 | NW | 30·05 | 29·80 | 59 | 30 | | | 20 | 83 | |
| | 16 | SW | 30·20 | 30·05 | 63 | 43 | | | — | 73 | |
| | 17 | NW | 30·20 | 30·10 | 68 | 39 | | | — | 82 | |
| | 18 | SE | 30·14 | 30·05 | 69 | 37 | | | 30 | 83 | |
| | 19 | NW | 30·18 | 30·04 | 72 | 44 | | | — | 80 | |
| | 20 | NW | 30·27 | 30·19 | 65 | 35 | | | — | 72 | |
| | 21 | NW | 30·37 | 30·15 | 68 | 32 | | | — | 74 | |
| | 22 | E | 30·48 | 30·37 | 65 | 34 | | | 47 | 72 | |
| | 23 | E | 30·50 | 30·45 | 65 | 35 | | | — | 69 | |
| | 24 | NE | 30·47 | 30·25 | 66 | 36 | | | — | 71 | |
| | 25 | NE | 30·25 | 29·65 | 63 | 29 | | | 50 | 72 | |
| | 26 | W | 29·85 | 29·55 | 69 | 40 | | | — | 68 | 28 |
| | 27 | NE | 30·00 | 29·85 | 46 | 36 | | | — | 74 | |
| | 28 | N | 30·07 | 30·00 | 52 | 34 | | | — | 67 | |
| | 29 | SW | 30·20 | 30·07 | 60 | 37 | | | — | 68 | |
| | 30 | NW | 30·30 | 30·21 | 63 | 28 | | | 46 | 75 | — |
| | | | 30·50 | 29·10 | 72 | 28 | | | 2·95 | | 1·58 |

Notes.—Fourth Mo. 1. Cloudy: windy. 2. Cloudy. 3. Calm: close: overcast. 4. *Cirrus: Cirrocumulus:* clear. 5. *Cirrus: Cirrocumulus.* 6. Cloudy: showers. [At Tottenham, a very bright double rainbow about half-past 6, p. m. Several *Nimbi.* Two swallows seen.] 7. Hoar-frost: some gentle showers during the day: a few flakes of snow, p. m. 8. Hoar frost: cloudy: showers. 9. Showery: fine. 10. Windy morning: heavy squalls, with showers, most of the day: some thunder-clouds and a rainbow, p. m. 11. Showery. 12. Overcast. 13, 14. Rainy. 15. Fine: *Cirrus: Cirrocumulus*

16—24. Fine, with *Cirrus* at intervals. [21. At Tottenham, hoar-frost on the ground, a. m.] 25, 26. Cloudy. 27. [At Tottenham, very windy, and wet in the night.] Some gentle rain this morning: the wind strong and cold from NE. The swallows made their appearance about five this morning in great numbers. 28, 29. Fine. 30. A gentle shower about 9, a. m.

## RESULTS.

Winds: N, 2; NE, 5; E, 2; SE, 4; SW, 7; W, 1; NW, 8; Var. 1.

| | | |
|---|---|---|
| Barometer: | Greatest height | 30·50 in. |
| | Least | 29·10 in. |
| | Mean | 29·889 in. |
| Thermometer: | Greatest height | 72° |
| | Least | 28° |
| | Mean | 49·38° |
| | At Tottenham | 49·98° |
| | For 30 days, the sun in Aries | 48·88° |
| Hygrometer: | Dry extreme | 67° |
| | Moist | 96° |
| | Mean | 78° |
| Evaporation | | 2·95 in. |
| Rain | | 1·58 in. |
| —— at Tottenham | | 1·88 in. |

A letter received from a friend in *Philadelphia,* says, under date *Fourth Month,* 3d: "After some days of fine spring weather, we yesterday had a snow-storm of ten hours' continuance, which covered the ground about five inches deep; but the weather is again mild, and the snow has nearly disappeared.

The reader is desired to compare with this account the changes from warmth to cold experienced *with us* in the early part of this month; and, in particular, the depression of the temperature by night (or minimum) between the 2d and 3d; and that by day, between the 5th and 6th of the month, which was continued through several days following.

*From an American paper.*

*Wilmington, (Delaware,) March* 29.—There was a fall of snow in the lower part of this state on Tuesday evening last, [21st,] since which the weather has been very fine. The past winter has been unusually stormy and disagreeable, though not attended by continued and severe cold. An observing friend has favoured us with a memorandum, from which we gather, that since the 25th of October last, snow has fallen twenty-two times, averaging once in seven days nearly. *The aggregate depth of all the snow that has fallen is five feet on a level.*

# TABLE CLXVIII.

| 1820. | Wind. | By Clock. | | Temp. | | T. No. 2. | | Evap | Hygr. at 9 a. m. | Rain, &c. |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Max. | Min. | Max. | Min. | Max. | Min. | | | |
| 5th mo. May 1 | Var. | 30·30 | 30·10 | 61° | 35° | | | — | 66 | |
| 2 | Var. | 30·10 | 30·02 | 62 | 41 | | | — | 69 | |
| 3 | E | 30·02 | 29·85 | 67 | 41 | | | — | 76 | |
| 4 | E | 29·85 | 29·80 | 60 | 31 | | | 35 | 67 | |
| 5 | NE | 29·86 | 29·70 | 57 | 26 | | | — | 65 | |
| 6 | SW | 29·70 | 29·49 | 65 | 44 | | | — | 67 | — |
| 7 | NW | 29·63 | 29·60 | 67 | 50 | | | — | 69 | — |
| 8 | SE | 29·63 | 29·54 | 65 | 50 | | | 48 | 73 | 14 |
| 9 | SW | 29·80 | 29·61 | 66 | 46 | | | — | 72 | |
| 10 | SW | 29·92 | 29·80 | 67 | 51 | | | — | 68 | |
| 11 | SW | 30·00 | 29·92 | 65 | 44 | | | 54 | 73 | |
| New M. 12 | SW | 30·00 | 29·85 | 70 | 36 | | | — | 71 | |
| 13 | NE | 29·85 | 29·75 | 66 | 46 | | | — | 76 | |
| 14 | SW | 29·78 | 29·73 | 67 | 47 | | | 30 | 74 | |
| 15 | SW | 29·73 | 29·60 | 68 | 48 | | | — | 70 | 55 |
| 16 | SW | 29·71 | 29·65 | 63 | 46 | | | — | 92 | 12 |
| 17 | W | 29·65 | 29·10 | 63 | 49 | | | — | 74 | 35 |
| 18 | SW | 29·83 | 29·10 | 60 | 46 | | | 47 | 83 | 17 |
| 19 | SW | 30·27 | 29·83 | 68 | 46 | | | — | 73 | 10 |
| 20 | SW | 30·31 | 30·27 | 70 | 42 | | | — | 76 | — |
| 21 | W | 30·27 | 30·09 | 72 | 37 | | | 40 | 71 | |
| 22 | SE | 30·09 | 29·85 | 78 | 42 | | | — | 72 | |
| 23 | E | 29·85 | 29·70 | 76 | 46 | | | 34 | 73 | |
| 24 | SW | 29·73 | 29·67 | 75 | 49 | | | — | 72 | 52 |
| 25 | SW | 29·77 | 29·68 | 60 | 45 | | | — | 72 | 9 |
| 26 | SW | 29·70 | 29·53 | 65 | 51 | | | — | 71 | 41 |
| 27 | NW | 29·55 | 29·40 | 63 | 49 | | | 44 | 82 | 8 |
| 28 | W | 29·40 | 29·26 | 62 | 46 | | | — | 73 | 8 |
| 29 | W | 29·27 | 29·26 | 60 | 41 | | | — | 72 | 21 |
| 30 | W | 29·33 | 29·27 | 62 | 46 | | | — | 71 | — |
| 31 | W | 29·50 | 29·33 | 62 | 42 | | | 45 | 71 | 3 |
| | | 30·31 | 29·10 | 78 | 26 | | | 3·77 | | 2·85 |

Notes.—Fifth Mo. 1. *Cirrus: Cirrostratus.* 2. *Cirrocumulus:* cloudy. 3. Cloudy morning: day overcast and cold. 4. Cloudy: fine: cold wind. 5. Hoar-frost: fine: windy. 6. *Cumulus:* a gentle shower in the evening. 7. *Cirrus: Cirrocumulus.* 8. Cloudy. [Some heavy showers after dark.—*Tott.*] 9. Cloudy: fine. 10. Cloudy: fine. [Windy morn: violent squalls of wind with some showers and thunder-clouds: an imperfect bow, p. m.—*Tott.*] 11. Cloudy. 12. Cloudy: *Cirrus: Cirrostratus:* and *Cirrocumulus.*

13. Fine. 14. Fine. 15. Cloudy: fine. 16. Showery. 17. Cloudy. 18. Showers. 19. Cloudy: fine. 20. Cloudy: fine. 21. *Cirrus: Cirrocumulus* and *Cirrostratus:* clear: a lunar halo in the evening. 22. A *Stratus* in the marshes early this morning: clear: *Cirrus.* 23. Clear. 24. Fine: windy. 25. Showery. 26. Showery. 27. Showery. 28. Showery. 29. A little hail at half-past 8, a. m.: another shower of hail about one o'clock, p. m. accompanied by thunder. 30. Overcast: *Cirrus.* 31. Showery: cold wind.

## RESULTS.

Winds: NE, 2; E, 3; SE, 2; SW, 14; W, 6; NW, 2; Var. 2.

| | | |
|---|---|---|
| Barometer: | Greatest height . . . | 30·31 in. |
| | Least . . . . . | 29·10 in. |
| | Mean . . . . . | 29·738 in. |
| Thermometer: | Greatest height . . . | 78° |
| | Least . . . . . | 26° |
| | Mean . . . . . | 54·69° |
| | At Tottenham . . . . | 55·53° |
| | For 31 days, the sun in Taurus | 51·93° |
| Hygrometer: | Dry extreme . . . . | 65° |
| | Moist . . . . . | 92° |
| | Mean . . . . . | 73° |
| Evaporation . . . . . | | 3·77 in. |
| Rain . . . . . | | 2·85 in. |
| —— at Tottenham . . . . . | | 3·45 in. |

### Peculiar Local Thaw.

*From the Bibliotheque Britannique.*—At Inspruck the snow is often seen melting on the mountains above the town, at an elevation of three thousand feet, while it continues very cold, and there is not the least sign of a thaw, in the valley of the *Inn,* below. The south wind of the *Brenner* [a mountain dividing this tract from Italy] is then vulgarly said to drive down the cold into the valley. If however we inspect the map, it will be seen that a wind from the Italian side may produce this effect a little to the south of the valley, where the waters part, while a N or NE wind flows through the latter.

| 1820. | Wind. | By Clock. | | Temp. | | T. No. 2. | | Evap | Hygr. at 9 a. m. | Rain, &c. |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Max. | Min. | Max. | Min. | Max. | Min. | | | |
| 6 mo. June 1 | W | 29·56 | 29·47 | 62° | 47° | | | — | 71 | |
| 2 | W | 29·77 | 29·56 | 65 | 42 | | | — | 71 | 33 |
| 3 | NW | 29·86 | 29·77 | 63 | 46 | | | — | 81 | 11 |
| 4 | NW | 29·96 | 29·86 | 59 | 38 | | | 44 | 75 | 2 |
| 5 | NW | 30·00 | 29·77 | 68 | 48 | | | — | 74 | 33 |
| 6 | NW | 30·07 | 29·92 | 61 | 38 | | | — | 84 | 1 |
| 7 | NW | 29·92 | 29·85 | 61 | 43 | | | — | 77 | |
| 8 | NW | 29·85 | 29·68 | 64 | 52 | | | 39 | 76 | 1 |
| 9 | NW | 29·69 | 29·67 | 61 | 40 | | | — | 79 | 3 |
| New M. 10 | NW | 29·69 | 29·50 | 62 | 42 | | | — | 75 | |
| 11 | SW | 29·70 | 29·48 | 57 | 48 | | | 28 | 72 | 8 |
| 12 | NE | 29·85 | 29·70 | 64 | 34 | | | — | 88 | |
| 13 | NW | 30·06 | 29·85 | 56 | 46 | | | — | 77 | 30 |
| 14 | N | 30·06 | 29·78 | 61 | 48 | | | — | 82 | 32 |
| 15 | NW | 29·92 | 29·80 | 64 | 40 | | | 30 | 92 | 2 |
| 16 | NW | 29·92 | 29·90 | 65 | 48 | | | — | 78 | |
| 17 | NW | 30·02 | 29·92 | 67 | 48 | | | — | 84 | |
| 18 | NW | 30·00 | 29·65 | 69 | 51 | | | — | 72 | 14 |
| 19 | NW | 29·70 | 29·58 | 68 | 50 | | | 50 | 80 | 2 |
| 20 | NW | 29·84 | 29·60 | 61 | 42 | | | — | 99 | 60 |
| 21 | NW | 30·01 | 29·84 | 67 | 41 | | | — | 77 | |
| 22 | SW | 30·13 | 30·01 | 74 | 50 | | | — | 76 | |
| 23 | NW | 30·20 | 30·12 | 81 | 47 | | | 42 | 79 | |
| 24 | NE | 30·32 | 30·20 | 89 | 51 | | | — | 78 | |
| 25 | NW | 30·40 | 30·32 | 91 | 60 | | | 35 | 67 | |
| 26 | NW | 30·39 | 30·35 | 88 | 55 | | | — | 70 | |
| 27 | Var. | 30·35 | 30·27 | 88 | 56 | | | 38 | 69 | |
| 28 | NW | 30·27 | 30·12 | 88 | 56 | | | — | 68 | 18 |
| 29 | SE | 30·12 | 29·92 | 74 | 53 | | | — | 89 | 4 |
| 30 | SE | 30·20 | 29·92 | 70 | 49 | | | 38 | 86 | |
| | | 30·40 | 29·47 | 91 | 34 | | | 3·44 | | 2·54 |

Notes.—Sixth Mo. Showery: cold: windy. 2. Showery: cold wind: a smart shower of hail about a quarter before 2, p. m.: wind shifted to the NW in the afternoon. 3. Cloudy: cold. 4. Showery. 5. Cloudy. 6. Cloudy. 7. Cloudy. 8. Cloudy. 9. Cloudy. 10. *Cirrus: Cirrostratus: Cirrocumulus.* 11. Showery. 12. Fine. 13. A strong smell of electricity in the morning: heavy rain, accompanied by thunder in the afternoon. 14. Cloudy. 15. *Cirrocumulus: Nimbus:* a *Stratus* in the marshes at night. 16. *Cirrocumulus:* cloudy. 17. Fine. 18. Cloudy: fine. Fine: cloudy. 20. Showery. 21. Fine: a very extensive *Stratus* on the marshes at night. 22. Fine:

cloudy: very fine *Cirrocumuli* at night, with lunar halo and corona. 23. Clear: *Cirrus:* a *Stratus* on the marshes at night. 24. *Cirrus:* sultry: a thick fog in the morning. 25. Clear: sultry. 26. Sultry: *Cirrus.* 27. *Cirrus:* clear. 28. Fine. 29. Fine. 30. Fine.

## RESULTS.

Winds: N, 1; NE, 2; SE, 2; SW, 2; W, 2; NW, 20; Var. 1.

| | | |
|---|---|---|
| Barometer: | Greatest height | 30·40 in. |
| | Least | 29·47 in. |
| | Mean | 29·921 in. |
| Thermometer: | Greatest height | 91° |
| | Least | 34° |
| | Mean | 57·95° |
| | For 32 days, the sun in Gemini | 54·53° |
| Hygrometer: | Dry extreme | 67° |
| | Moist | 99° |
| | Mean | 78° |
| Evaporation | | 3·44 in. |
| Rain | | 2·54 in. |
| —— at Tottenham | | 2·26 in. |
| Mean temp. at Tottenham [thermom. too much exposed to sun] | | 59·86° |

### Singular Meteoric Product.

*From the Journal de Physique*, tom. xci. p. 238.

To the number of meteoric products may now be added a very remarkable substance, known in Germany by the name of *Trauer papier*, or mourning paper. According to the Ephemerides of the Academy of Leopold, this substance fell in large quantities, near Randen in Courland, Jan. 31, 1684. Chladni having mentioned it in his Catalogue of Ancient Meteoric bodies, M. Grotthus of Courland was enabled to recognise it in a substance (the nature of which he could not before determine) which formed an article in his museum, with a ticket denoting it to be of meteoric origin. *It is a mass of black leaves, looking like charred paper*, but harder and rather brittle. By the application of chemical tests it was found to consist of the same materials as meteoric stones, viz. silica, magnesia, iron, and a little nickel; together with traces of chrome. Some black bodies like *beans*, which are said to have fallen with it, are not now to be met with.

| 1820. | | Wind. | By Clock. | | Temp. | | T. No. 2. | | Evap | Hygr. at 9 a. m. | Rain, &c. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Max. | Min. | Max. | Min. | Max. | Min. | | | |
| 7th mo. July | 1 | N | 30·22 | 30·10 | 65° | 40° | | | — | 69 | |
| | 2 | W | 30·10 | 29·88 | 65 | 45 | | | — | 70 | 14 |
| | 3 | NW | 29·82 | 29·75 | 65 | 50 | | | 23 | 77 | 17 |
| | 4 | N | 30·10 | 29·82 | 65 | 50 | | | — | 77 | |
| | 5 | N | 30·11 | 30·10 | 65 | 40 | | | — | 72 | |
| | 6 | NE | 30·11 | 30·10 | 65 | 44 | | | 24 | 73 | |
| | 7 | NW | 30·17 | 30·10 | 68 | 50 | | | — | 75 | |
| | 8 | N | 30·17 | 30·14 | 68 | 48 | | | — | 72 | |
| | 9 | Var. | 30·14 | 30·10 | 70 | 50 | | | — | 74 | |
| New M. | 10 | SE | 30·10 | 30·02 | 74 | 41 | | | 36 | 72 | |
| | 11 | NE | 30·02 | 29·90 | 73 | 43 | | | — | 71 | |
| | 12 | E | 29·90 | 29·77 | 74 | 53 | | | — | 74 | |
| | 13 | NE | 29·81 | 29·77 | 67 | 51 | | | 31 | 73 | |
| | 14 | NE | 29·90 | 29·80 | 73 | 57 | | | — | 73 | |
| | 15 | NE | 29·94 | 29·90 | 75 | 47 | | | — | 76 | |
| | 16 | Var. | 29·90 | 29·50 | 80 | 58 | | | — | 74 | 86 |
| | 17 | Var. | 29·50 | 29·30 | 72 | 50 | | | 25 | 82 | 1·08 |
| | 18 | SW | 29·40 | 29·30 | 70 | 48 | | | — | 98 | 26 |
| | 19 | SW | 29·65 | 29·40 | 73 | 48 | | | — | 90 | 6 |
| | 20 | SW | 29·83 | 29·65 | 77 | 55 | | | — | 83 | — |
| | 21 | NW | 29·92 | 29·83 | 72 | 50 | | | 34 | 85 | 5 |
| | 22 | NW | 29·92 | 29·87 | 70 | 53 | | | — | 76 | |
| | 23 | NW | 29·93 | 29·90 | 63 | 52 | | | — | 78 | — |
| | 24 | NW | 29·93 | 29·82 | 73 | 58 | | | — | 79 | |
| | 25 | NW | 30·00 | 29·81 | 73 | 50 | | | 55 | 77 | |
| | 26 | NW | 30·01 | 30·00 | 73 | 57 | | | — | 71 | |
| | 27 | NW | 30·00 | 29·97 | 76 | 56 | | | — | 77 | |
| | 28 | Var. | 30·05 | 29·98 | 78 | 55 | | | 45 | 76 | |
| | 29 | SE | 30·05 | 30·02 | 79 | 52 | | | — | 74 | |
| | 30 | SE | 30·00 | 29·78 | 84 | 54 | | | — | 74 | 76 |
| | 31 | S | 29·78 | 29·72 | 86 | 54 | | | 44 | 79 | |
| | | | 30·22 | 29·30 | 86 | 40 | | | 3·17 | | 3·38 |

Notes.—Seventh Mo. 1. Fine. 2, 3. Showery. 4—6. Overcast. 7—9. Cloudy. 10—13. Fine. 14. Cloudy. 15. Fine. 16. A heavy thunder-shower about 11, a. m.: an unusually heavy shower of rain about half-past 1, p. m. 17, 18. Rainy. 19. Cloudy and fine. 20. *Cirrus: Cirrocumulus:* cloudy: showers, with some thunder. 22. Cloudy and fine. 23. Overcast. 24—26. *Cirrocumulus:* cloudy. 27. *Cirrocumulus: Cirrostratus: Cirrus.* 28. *Cirrus: Cirrocumulus.* 29. *Cirrus:* clear. 30. Fine day: a thunder-storm com-

menced about 10, p. m. and continued about three and a half hours: the lightning extremely vivid and frequent: the thunder mostly distant and nearly continuous: at half-past 11, after a very loud clap of thunder, heavy rain began with us.

## RESULTS.

Winds: N, 4; NE, 5; E, 1; SE, 3; S, 1; SW, 3; W, 1; NW, 9; Var. 4.

| | | |
|---|---|---|
| Barometer: | Greatest height | 30·22 in. |
| | Least | 29·30 in. |
| | Mean | 29·915 in. |
| Thermometer: | Greatest height | 86° |
| | Least | 40° |
| | Mean | 61·13° |
| | At Tottenham | 62·40° |
| | For 31 days, the sun in Cancer | 63·26° |
| Evaporation | | 3·17 in. |
| Rain | | 3·38 in. |
| —— at Tottenham | | 3·64 in. |

The mean of the hygrometer is for the latter seventeen days of the month 79·35°, but the mean deduced for the like space from a new one now substituted for it, is 64·88°: it appears, therefore, that the old one, the discrepancy of which with one at Tottenham, has been heretofore stated, will require a deduction of fourteen degrees from its later results. It appears to have been employed from about Midsummer, 1819; and the error (which has apparently arisen from the stretching of a too slender piece of whalebone) has probably increased from that time to the present.—R. H. To which note I have to add, that I should have rejected in this work the whole of the observations in question, but for the experience I have had of the comparative value of even inaccurate observations, where correction is possible.

| 1820. | Wind. | By Clock. | | Temp. | | T. No. 2. | | Evap | Hygr. at 9 a. m. | Rain, &c. |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Max. | Min. | Max. | Min. | Max. | Min. | | | |
| 8th mo. Aug. 1 | SW | 30·07 | 29·78 | 77° | 53° | | | — | 61 | |
| 2 | W | 30·08 | 29·90 | 77 | 58 | | | — | 58 | |
| 3 | SW | 29·90 | 29·68 | 75 | 63 | | | 45 | 64 | 20 |
| 4 | SW | 29·77 | 29·68 | 76 | 54 | | | — | 88 | 8 |
| 5 | W | 29·80 | 29·55 | 75 | 57 | | | — | 62 | 13 |
| 6 | SW | 29·70 | 29·49 | 69 | 57 | | | 35 | 74 | 16 |
| 7 | W | 29·94 | 29·70 | 69 | 58 | | | — | 64 | 18 |
| New M. 8 | SW | 29·80 | 29·76 | 71 | 56 | | | 34 | 61 | |
| 9 | W | 30·28 | 29·80 | 74 | 48 | | | — | 61 | |
| 10 | NW | 30·27 | 30·25 | 78 | 50 | | | — | 65 | |
| 11 | NW | 30·25 | 30·17 | 76 | 50 | | | 36 | 64 | |
| 12 | N | 30·17 | 30·05 | 75 | 49 | | | — | 60 | |
| 13 | N | 30·05 | 29·92 | 74 | 49 | | | — | 57 | |
| 14 | SW | 29·92 | 29·80 | 79 | 51 | | | 36 | 59 | |
| 15 | SW | 29·80 | 29·70 | 81 | 61 | | | — | 60 | |
| 16 | SW | 29·80 | 29·72 | 78 | 62 | | | — | 67 | |
| 17 | SW | 29·81 | 29·70 | 75 | 51 | | | 37 | 66 | |
| 18 | NW | 29·80 | 29·66 | 73 | 50 | | | — | 58 | |
| 19 | NE | 29·82 | 29·66 | 69 | 41 | | | — | 57 | — |
| 20 | NW | 29·83 | 29·77 | 69 | 43 | | | — | 56 | 14 |
| 21 | NE | 29·76 | 29·70 | 61 | 51 | | | 32 | 71 | 52 |
| 22 | NE | 30·09 | 29·76 | 69 | 47 | | | — | 64 | — |
| 23 | NE | 30·15 | 30·09 | 64 | 46 | | | — | 60 | |
| 24 | SW | 30·11 | 29·80 | 70 | 48 | | | — | 54 | |
| 25 | SW | 29·80 | 29·60 | 68 | 55 | | | 40 | 68 | 19 |
| 26 | SW | 29·66 | 29·60 | 70 | 47 | | | — | 64 | 8 |
| 27 | NW | 29·69 | 29·41 | 68 | 52 | | | — | 59 | 14 |
| 28 | SW | 29·60 | 29·41 | 67 | 46 | | | 39 | 62 | |
| 29 | SW | 29·85 | 29·60 | 71 | 38 | | | — | 62 | |
| 30 | N | 30·00 | 29·85 | 70 | 42 | | | 20 | 60 | |
| 31 | NE | 30·07 | 30·00 | 72 | 41 | | | 08 | 62 | |
| | | 30·28 | 29·41 | 81 | 38 | | | 3·62 | | 1·82 |

Notes.—Eighth Mo. 1, 2. Fine. 3. Cloudy. 4. *Cirrus: Cirrocumulus:* showery morning. 5. Fine. 6, 7. Showery. 8—14. Fine, with the usual superior modifications of cloud. 15. Thunder-clouds. 16—18. Cloudy. 19. A thunder-storm at 2, p. m. 21. Showery morning: wet day. 22—26. Cloudy. 27. *Cirrus, Cirrocumulus:* windy: rain by night. 28, 29. Fine. 30. Some lightning in the evening. 31. *Cirrocumulus.*

## RESULTS.

Winds: N, 3; NE, 5; E, 0; SE, 0; S, 0; SW, 14; W, 4; NW, 5.

| | | |
|---|---|---|
| Barometer: | Greatest height | 30·28 in. |
| | Least | 29·41 in. |
| | Mean | 29·839 in. |
| Thermometer: | Greatest height | 81° |
| | Least | 38° |
| | Mean | 61·51° |
| | —— at Tottenham | 61·83° |
| | For 31 days, the sun in Leo | 63·741° |
| Evaporation | | 3·62 in. |
| Rain | | 1·82 in. |
| —— at Tottenham | | 1·70 in. |
| Hygrometer: | Dry extreme | 54° |
| | Moist | 88° |
| | Mean | 62° |

On the 28th of Seventh Month I travelled with my family from Tottenham to Folkstone; and on the 29th, in the evening, being on the cliffs to the westward, a little way from the town, the sea being then covered with a mixture of *Cumulus* and *Cirrostratus* lying beneath our feet, with the sun over the land, we witnessed the phenomenon which I have described elsewhere in this work under the name of a meteorological *glory*. The barometer on this occasion had been steady during the day at 30 in. and fell in the night to 29·90, the lowest temp. being 49°.

On the 30th it was very fine, with large *Cirri*, a. m.: wind SE, temp. at 2 p. m. 69°. In the evening, the *Cirri* became dense to complete cloudiness, with patches of scud underneath, and distant rain to the W: a few drops with us. In the night we had two long peals of thunder and a heavy shower. Barom. fell to 29·71 in. temp. to 59°.

On the 31st, a very fine day, with *Cirrus, Cirrocumulus,* &c. Went in a boat under the cliffs, eastward. Temp. of the sea about high water 65°, between 3 and 4, p. m. In returning between six and seven, a very thundery-looking sky to the westward, which the fisherman with us knew how to appreciate, saying, after a few minutes, that the storm would pass inland; which the clouds did, in effect, soon after. He said the *south-east,* if it blow fresh in hot weather, *always* brings a tempest; and that the wind going *out,* or to southward, in the case of a westerly wind prevailing, indicates *rain.*

On the 4th inst. this prognostic was found correct: we had rain early, the wind, which had been westerly on the 2d, shifted on the 3d to SW by S, and blew fresh on shore; the barometer meanwhile falling from 29·94 to 29·72 inches, the lowest temp. by night having increased from 49° to 60°.

| 1820. | | Wind. | By Clock. | | Temp. | | T. No. 2. | | Evap | Hygr. at 9 a. m. | Rain, &c. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Max. | Min. | Max. | Min. | Max. | Min. | | | |
| 9th mo. Sept. | 1 | NE | 30·03 | 30·00 | 71° | 45° | | | — | 60 | |
| | 2 | N | 30·10 | 30·00 | 67 | 42 | | | — | 59 | |
| | 3 | N | 30·13 | 30·00 | 68 | 38 | | | — | 59 | |
| | 4 | NE | 30·13 | 30·05 | 71 | 39 | | | 34 | 60 | |
| | 5 | NE | 30·05 | 30·00 | 72 | 39 | | | — | 69 | |
| | 6 | Var. | 30·08 | 30·00 | 70 | 39 | | | — | 66 | |
| New M. | 7 | SE | 30·22 | 30·08 | 71 | 49 | | | — | 73 | |
| | 8 | NW | 30·37 | 30·22 | 71 | 42 | | | — | 59 | |
| | 9 | NE | 30·37 | 30·27 | 74 | 42 | | | 49 | 60 | |
| | 10 | W | 30·27 | 30·23 | 74 | 45 | | | — | 59 | |
| | 11 | N | 30·24 | 30·20 | 82 | 53 | | | — | 70 | |
| | 12 | NW | 30·20 | 30·15 | 78 | 48 | | | — | 76 | |
| | 13 | E | 30·15 | 29·89 | 76 | 42 | | | 40 | 64 | |
| | 14 | SE | 29·89 | 29·62 | 78 | 56 | | | — | 66 | |
| | 15 | SW | 29·90 | 29·61 | 70 | 42 | | | — | 59 | 2 |
| | 16 | NW | 29·98 | 29·90 | 69 | 47 | | | 40 | 56 | |
| | 17 | W | 29·91 | 29·50 | 68 | 50 | | | — | 57 | 1·52 |
| | 18 | NW | 29·85 | 29·45 | 56 | 37 | | | — | 58 | 20 |
| | 19 | NW | 30·01 | 29·85 | 66 | 32 | | | — | 60 | |
| | 20 | W | 29·85 | 29·35 | 59 | 40 | | | — | 55 | 37 |
| | 21 | W | 29·60 | 29·35 | 59 | 38 | | | 35 | 69 | 4 |
| | 22 | NW | 29·96 | 29·60 | 59 | 46 | | | — | 63 | — |
| | 23 | SW | 29·96 | 29·66 | 71 | 58 | | | — | 71 | 5 |
| | 24 | SW | 29·72 | 29·60 | 67 | 46 | | | — | 72 | — |
| | 25 | NW | 29·85 | 29·60 | 61 | 38 | | | 37 | 63 | — |
| | 26 | NW | 30·13 | 29·85 | 53 | 29 | | | — | 63 | — |
| | 27 | SW | 30·10 | 30·05 | 56 | 40 | | | — | 66 | 14 |
| | 28 | SW | 30·07 | 29·90 | 64 | 51 | | | — | 71 | 12 |
| | 29 | N | 30·21 | 30·00 | 60 | 34 | | | — | 71 | — |
| | 30 | SE | 30·13 | 29·97 | 66 | 48 | | | 23 | 91 | 3 |
| | | | 30·37 | 29·35 | 82 | 32 | | | 2·58 | | 2·49 |

Notes.—Ninth Mo. 1. *Cirrus: Cirrocumulus.* 2. Fine. 3. *Cirrus: Cirrocumulus.* 4. *Cirrus.* 5, 6, 7. Fine: foggy mornings: a solar eclipse on the 7th, during which there was a depression of temperature: the particulars are detailed in the note following. 8—14. Fine. 15. Cloudy. 16. Fine. 17. Cloudy. 18. Rainy morning: afternoon, fine. 19. Fine. 20. Morning, fine: evening, very wet. 21, 22, 23. Cloudy. 24. Cloudy in the morning: afternoon, very fine. 25. Cloudy. 26. Fine. 27. Rainy. 28. Fine. 30. Cloudy.

## RESULTS.

Winds: N, 4; NE, 4; E, 1; SE, 3; S, 0; SW, 5; W, 4; NW, 8; Var. 1.

| | | |
|---|---|---|
| Barometer: | Greatest height | 30·37 in. |
| | Least | 29·35 in. |
| | Mean | 29·952 in. |
| Thermometer: | Greatest height | 82° |
| | Least | 32° |
| | Mean | 55·36° |
| | For 31 days, the sun in Virgo | 56·693° |
| Evaporation | | 2·58 in. |
| Rain | | 2·49 in. |
| —— at Tottenham | | 2·76 in. |
| Hygrometer: | Dry extreme | 55° |
| | Moist | 91° |
| | Mean | 64° |

### The Solar and Lunar Eclipses.

On the night preceding the *Solar Eclipse* on the 7th inst. the minimum temperature at *Tottenham* was 41°, and during the eclipse, the register thermometer there made a retrograde movement from 71° to 63°.

The morning was very misty; temp. at 30 min. after five, 42°; barom. 30·02 in.; vane at NE, calm air; at twenty min. after seven, temp. 50°; barom. 30·05 in.: at thirty min. after nine, temp. 65°; barom. 30·05 in. Wind, now SE, with *Cirri* above and *Cumuli* appearing beneath them. The temp. now rose to 67°, and fell again by ten to 65°. At thirty min. after ten, temp. 65·5, there being still much cloud. I now proceeded to my friend William Allen's, at Stoke Newington, where, during the eclipse, I made the following observations.—At *noon*,

| | | |
|---|---|---|
| Barometer 30·05 in. sun out. | | |
| Therm. (a very delicate one of quicksilver) | | 66° |
| At 0h. | 30 min. the eclipse begun some min. | 68·5 |
| | 40 | 69·5 |
| | 42 temp. lowered by a great sheet of *Cirrocumulus* | 66·0 |
| | 56 sun shining out | 68·5 |
| 1 | 0 much *Cirrocumulus* | 68·5 |

| | | | |
|---|---|---|---|
| At 0h. | 10 min. | cloud more dense . . . | 66·0 |
| | 15 | the strong SE breeze fallen: still some *Cirrocumulus* . | 65·0 |
| | 25 | barom. now 30·045 in. . . | 64·5 |
| | 30—45 | . . . . . | 64·0 |
| | 50 | sun shining out . . . | 63·5 |
| | 55 | the greatest obscuration past . | 63·0 |
| 2 | 0 | in full sun 63°, in shade . . | 62·5 |

A slight solar halo now appeared in a Cirro-stratus cloud. The sunshine against the house was so dim as to be quite striking; and the view before us to south, which included the nearer parts of London, showed much the same as afterwards at six in the evening—dusky, but not dark.

| | | | |
|---|---|---|---|
| | 15 | in shade . . . . . | 63·0 |
| | 20 | sun shining out . . . | 64·0 |
| | 40 | . . . . . | 65·0 |
| | 47—55 | . . . . . | 66·5 |
| 3 | 0 | . . . . . | 67·0 |
| | 20 | eclipse over . . . . | 65·0 |
| 6 | 30 | In walking home through the meadows I found the temp. falling below 50°, with dew. The minimum of the ensuing night, in the garden at Tottenham, was 48·5°. | |

The lowest temperature was observed about seven minutes *after* the greatest obscuration; and by the rate at which it should have advanced, instead of falling, from 1 to 2, p. m. I think we may safely add 3° to 7° which were observed at Newington, and estimate the total abatement of heat on this occasion at full 10° of Fahrenheit.

At the time of the greatest obscuration, the thermometer being brought from under the tree, and exposed to the sun's rays, the quicksilver rose only half a degree. Yet the little *crescent* formed by the rays collected in a lens of $2\frac{1}{2}$ inches focus, was still capable of firing tinder, and burning out the black spots in blotting-paper. My son observed, that the spots of light falling through the shade of trees on the ground, instead of being globular, as usual, were *crescents*.

The shadows cast by the sun in this state were double—or rather

like those produced by three candles held in a triangle. A straw, cut square at the end, gave a triple shadow, consisting of a lighter bar within, and two darker ones touching it without, the end being in the form of a *crescent*. He also states that the wind was south-east, the whole of the eclipse, except a change for a short time to south, about the middle: at which time Venus was very easily discovered by the eye, and continued so for twenty-five minutes.

The fore part of the *Lunar eclipse* on the 21st was well seen at Tottenham, and it was remarked that the approach of the earth's shadow was preceded by a slight *iridescence*, forming, as it were, part of a halo on that side of the moon: this was evidently owing to haze in our own atmosphere. When the earth's shadow had proceeded so far as to bisect the moon vertically, the lower half of the disc having passed [also] behind the [horizontal] edge of a dense *Cirrostratus*, it presented, for a few minutes, the singular appearance of the luminous circle suddenly reduced to a quadrant.

# TABLE CLXXIII.

| 1820. | | Wind. | By Clock. | | Temp. | | T. No. 2. | | Evap | Hygr. at 9 a. m. | Rain, &c. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Max. | Min. | Max. | Min. | Max. | Min. | | | |
| 10th mo. Oct. | 1 | NW | 30·40 | 30·10 | 58° | 41° | 60° | 40° | — | 61 | |
| | 2 | NW | 30·50 | 30·40 | 58 | 46 | 61 | 43 | — | 65 | |
| | 3 | NE | 30·58 | 30·50 | 58 | 34 | 61 | 33 | — | 62 | |
| | 4 | NE | 30·53 | 30·37 | 58 | 44 | | | — | 53 | 5 |
| | 5 | E | 30·37 | 30·23 | 60 | 45 | | | — | 62 | |
| | 6 | E | 30·23 | 30·18 | 61 | 40 | 64 | 43 | 56 | 61 | |
| New M. | 7 | NE | 30·18 | 30·13 | 62 | 40 | 63 | 42 | — | 72 | |
| | 8 | NE | 30·22 | 30·17 | 60 | 40 | 60 | 39 | — | 57 | |
| | 9 | NE | 30·23 | 30·12 | 53 | 43 | 53 | 45 | — | 58 | |
| | 10 | N | 30·12 | 29·95 | 52 | 44 | 55 | 44 | — | 69 | 4 |
| | 11 | N | 30·02 | 29·93 | 53 | 37 | 55 | 37 | — | 64 | |
| | 12 | N | 30·02 | 30·00 | 54 | 25 | 55 | 28 | — | 58 | |
| | 13 | SW | 30·00 | 29·80 | 52 | 38 | 55 | 40 | 40 | 78 | 2 |
| | 14 | SE | 29·80 | 28·80 | 61 | 48 | 62 | 48 | — | 61 | 11 |
| | 15 | S | 29·10 | 28·80 | 62 | 44 | 63 | 41 | — | 63 | 15 |
| | 16 | SW | 29·10 | 28·68 | 52 | 44 | 55 | 44 | — | 64 | 21 |
| | 17 | SW | 29·00 | 28·68 | 56 | 41 | 58 | 38 | — | 63 | |
| | 18 | W | 29·25 | 29·00 | 54 | 41 | 58 | 39 | — | 68 | 3 |
| | 19 | NW | 29·20 | 28·73 | 51 | 41 | 53 | 40 | — | 63 | 20 |
| | 20 | W | 29·52 | 28·97 | 53 | 36 | 56 | 35 | — | 61 | 13 |
| | 21 | NW | 29·52 | 28·52 | 54 | 34 | 54 | 31 | 55 | 70 | 2 |
| | 22 | SW | 29·10 | 28·52 | 52 | 43 | 52 | 41 | — | 67 | 48 |
| | 23 | NW | 29·10 | 28·52 | 54 | 43 | 55 | 41 | — | 66 | 9 |
| | 24 | SW | 28·90 | 28·52 | 52 | 40 | 52 | 38 | — | 68 | 35 |
| | 25 | NW | 29·37 | 28·87 | 52 | 37 | 53 | 33 | — | 72 | |
| | 26 | S | 29·20 | 28·87 | 53 | 42 | 51 | 43 | — | 69 | 22 |
| | 27 | SW | 29·48 | 29·10 | 54 | 39 | | | — | 68 | 5 |
| | 28 | NW | 29·67 | 29·10 | 50 | 37 | 55 | 34 | 50 | 66 | |
| | 29 | S | 29·60 | 29·10 | 48 | 37 | 50 | 33 | — | 60 | 15 |
| | 30 | SW | 29·60 | 29·20 | 53 | 32 | 55 | 29 | — | 73 | |
| | 31 | SE | 29·50 | 29·16 | 49 | 42 | 50 | 43 | 11 | 78 | |
| | | | 30·58 | 28·52 | 62 | 25 | | | 2·12 | | 2·30 |

Notes.—Tenth Mo. 1—8. Fine. 9, 10. Cloudy. 11, 12. Fine. 13. Hoar frost: cloudy. 14—16. Showery: a little hail: very tempestuous night, with frequent showers. 19. Cloudy. 20. Cloudy: a shower of hail at 2, p. m. 21. Foggy morning: cloudy day: stormy, wet night. 22. Stormy, with rain and sleet. 23—25. Cloudy. 27. Showers: cloudy. 28. Cloudy. 29. Rainy. 30. Fine. 31. Cloudy.

## RESULTS.

Winds: N, 3; NE, 5; E, 2; SE, 2; S, 3; SW, 7; W, 2; NW, 7.

| | | |
|---|---|---|
| Barometer: | Greatest height | 30·58 in. |
| | Least | 28·52 in. |
| | Mean | 29·556 in. |
| Thermometer: | Greatest height | 62° |
| | Least | 25° |
| | Mean | 47·38° |
| | At Tottenham | 47·79° |
| | For 30 days, the sun in Libra | 49·416° |
| Evaporation | | 2·12 in. |
| Rain | | 2·30 in. |
| Hygrometer: | Dry extreme | 53° |
| | Moist | 78° |
| | Mean | 65° |

At *Tottenham,* mean temperature for the month (the 4th, 5th, and 27th days wanting) 47·50°; rain, 1·90 in. On the 17th, a brilliant meteor, about 7, p. m. descending to the NW, followed by a lunar halo. 19. Solar halo at 3, p. m. 20. Several finely-coloured *Nimbi* in the S, about sun-set. The swallows continued about till near the close of the month in considerable numbers. The movements of the barometer, after the great depression on the 14th, were singularly desultory, the curve changing its direction almost every twenty-four hours.

### Lunar Rainbow.

Extract of a letter to the Author, from L. W. Dillwyn, Esq. dated at Penllergare, Glamorganshire, Oct. 23, 1820.

"Last Wednesday evening, [18th,] on my return from London, in passing over *Llangafelach* hill, about ten minutes past nine, I was struck by a fine object, which was new to me, and of which I hasten to send you the particulars. It was a *Lunar Rainbow* in the North West, which appeared in front of a dark cloud, when the moon, nearly full, was shining bright in the opposite direction. It had all the colours of a common rainbow, but they were much fainter; and a whitish cast was diffused over the whole. The arc was very large and perfect, and at one end visible over a heath which was almost close to my carriage, but I could not help fancying that it was flatter at the top, and more parabolic, than in a Solar rainbow. I enjoyed the sight for about five minutes without thinking of the moon, when in the twinkling of an eye she became darkened by a cloud, and the whole was over. The weather before was, and has since continued to be, very unsettled and stormy, both as to wind and rain; and the sudden tempests which have arisen during the last eight days, have proved highly dangerous to the navigators of the British Channel.

"Of the circumstance which I before mentioned to you, I cannot now find my memoranda, and I only recollect that it occurred near *Pyle,* when I was sheriff of the county, and I therefore know it must have been in 1818. The weather was stormy and misty, and while the sun was shining from an interstice in the clouds on one side, there appeared in an opposite direction a large and splendid rainbow, including a vast number of concentric arcs; which became gradually fainter, so as in the centre to be hardly discernible. It was a beautiful sight; and I remember *five* distinct arcs, but the others became so faint and confused, that it was almost impossible to make any further reckoning."

| 1820. | | Wind. | By Clock. | | Temp. | | T. No. 2. | | Evap | Hygr. at 9 a. m. | Rain, &c. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Max. | Min. | Max. | Min. | Max. | Min. | | | |
| 11 mo. Nov. | 1 | NW | 29·71 | 29·50 | 56° | 34° | 47° | 30° | — | 78 | 6 |
| | 2 | W | 29·80 | 29·71 | 48 | 25 | 50 | 26 | — | 72 | |
| | 3 | Var. | 29·85 | 29·82 | 41 | 23 | 46 | 25 | — | 91 | |
| | 4 | N | 29·92 | 29·82 | 48 | 27 | 50 | 24 | — | 91 | |
| | 5 | SW | 29·82 | 29·60 | 50 | 30 | 50 | 30 | — | 91 | 20 |
| New M. | 6 | W | 29·73 | 29·67 | 52 | 44 | 55 | 44 | — | 87 | |
| | 7 | SW | 29·80 | 29·70 | 57 | 50 | 58 | 51 | — | 93 | 2 |
| | 8 | E | 29·90 | 29·80 | 56 | 45 | 57 | 46 | — | 93 | — |
| | 9 | E | 30·00 | 29·90 | 50 | 41 | 51 | 42 | — | 70 | |
| | 10 | N | 30·17 | 30·00 | 46 | 39 | 50 | 40 | — | 71 | |
| | 11 | NE | 30·28 | 29·95 | 49 | 34 | 49 | 35 | — | 76 | |
| | 12 | SW | 29·95 | 29·47 | 43 | 36 | 46 | 37 | 40 | 66 | 24 |
| | 13 | N | 29·79 | 29·50 | 49 | 31 | | | — | 81 | 13 |
| | 14 | NE | 29·90 | 29·70 | 38 | 31 | 40 | 32 | — | 62 | 2 |
| | 15 | NE | 30·00 | 29·85 | 43 | 29 | 45 | 30 | — | 76 | — |
| | 16 | NW | 29·85 | 29·55 | 41 | 23 | 43 | 23 | — | 84 | — |
| | 17 | SE | 29·84 | 29·50 | 43 | 29 | 43 | 28 | — | 78 | 30 |
| | 18 | Calm | 29·90 | 29·84 | 40 | 29 | 43 | 31 | — | 92 | 1 |
| | 19 | SE | 29·95 | 29·89 | 47 | 33 | 47 | 35 | — | 90 | |
| | 20 | SE | 29·90 | 29·80 | 50 | 45 | 51 | 45 | — | 90 | |
| | 21 | SE | 29·80 | 29·70 | 53 | 45 | 52 | 45 | — | 84 | — |
| | 22 | SE | 29·60 | 29·40 | 49 | 39 | 48 | 39 | — | 86 | 40 |
| | 23 | Var. | 29·67 | 29·35 | 48 | 30 | 47 | 31 | — | 90 | 26 |
| | 24 | SW | 29·65 | 29·49 | 46 | 32 | 46 | 32 | — | 91 | — |
| | 25 | E | 29·85 | 29·50 | 48 | 43 | 50 | 41 | — | 94 | 16 |
| | 26 | SE | 29·90 | 29·85 | 52 | 38 | 53 | 37 | — | 80 | |
| | 27 | E | 30·10 | 29·90 | 46 | 33 | 49 | 31 | — | 92 | |
| | 28 | E | 30·28 | 30·10 | 39 | 36 | 40 | 38 | — | 83 | |
| | 29 | NE | 30·30 | 30·20 | 41 | 33 | 42 | 40 | — | 70 | |
| | 30 | N | 30·20 | 30·06 | 43 | 29 | 48 | 29 | 55 | 71 | 2 |
| | | | 30·30 | 29·35 | 57 | 23 | | | 95 | | 1·82 |

Notes.—Eleventh Mo. 1. Rainy: a fine arch of *Cirrocumulus* stretching from NW to SE, and coloured a bright red by the setting sun. 2. Day very fine: night foggy. 3. A very thick fog in the morning. 4, 5. Hoar-frost: foggy. 6. Fine. 7. Cloudy. 8. Cloudy. 9, 10, 11. Fine. 12, 13. Rainy. 14. Cloudy: windy: a little snow about noon. 15. Cloudy: some hail. 16. White-frost: fine. 17. Some snow in the morning. 18. An extremely thick fog, which remained most of the morning. About ten o'clock the coachmen on the road were unable to see the heads of their horses, which, in many

instances, were obliged to be led. 19. Fine. 20. Cloudy: fine. 21. Very fine. 22. Rainy. 23. Morning very rainy: a rainbow about half-past 1, p. m. 24. Cloudy. 25. Fine. 26. Fine. 27, 28, 29, 30. Cloudy.

## RESULTS.

Winds: N, 4; NE, 4; E, 5; SE, 6; SW, 4; W, 2; NW, 2; Calm, 1; Var. 2.

| | | |
|---|---|---|
| Barometer: | Greatest height | 30·30 in. |
| | Least | 29·35 in. |
| | Mean | 29·824 in. |
| Thermometer: | Greatest height | 57° |
| | Least | 23° |
| | Mean | 40·80° |
| | At Tottenham | 41·45° |
| | For 30 days, the sun in Scorpio | 42·283° |
| Evaporation | | 0·95 in. |
| Rain | | 1·82 in. |
| Rain at Tottenham | | 1·75 in. |
| Hygrometer: | Dry extreme | 62° |
| | Moist | 94° |
| | Mean | 82° |

### Height of two Meteors.

Having inserted in this work (vol. ii. p. 33) the minute and instructive particulars of a meteor, which threw down aërolites at several places near Greenfield, *Massachusets*, 14th Dec. 1807, I think fit here to add an account of its height, as computed by a man of science, and inserted in the *Philo. Mag.* together with that of another meteor, by another observer, very nearly agreeing with the former.

"Mr. Bowdich found that the perpendicular altitude of the meteor which discharged the stones at Weston in North America, on the 14th Dec. 1807, was 15·360 toises, or about sixteen miles."

"According to M. H. Dutrochet, the height of the meteor which projected the stones at Charsonville, in the department of the Loiret, on the 23d Nov. 1810, was about 14·724 toises."

| 1820. | | Wind. | By Clock. | | Temp. | | T. No. 2. | | Evap | Hygr. at 9 a. m. | Rain, &c. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Max. | Min. | Max. | Min. | Max. | Min. | | | |
| 12 mo. Dec. | 1 | NW | 30·05 | 29·90 | 42° | 37° | 45° | 38° | — | 90 | — |
| | 2 | NW | 30·10 | 29·90 | 42 | 31 | 43 | 30 | — | 84 | 3 |
| | 3 | SW | 29·98 | 29·90 | 50 | 38 | 51 | 40 | — | 90 | |
| | 4 | W | 29·91 | 29·80 | 53 | 37 | | | — | 77 | |
| New M. | 5 | W | 30·00 | 29·75 | 51 | 45 | 55 | 45 | — | 69 | 6 |
| | 6 | E | 30·02 | 30·00 | 51 | 44 | 51 | 45 | — | 94 | 4 |
| | 7 | NW | 30·15 | 30·00 | 55 | 49 | 55 | 51 | — | 82 | |
| | 8 | SW | 30·20 | 30·15 | 50 | 45 | 51 | 43 | — | 76 | |
| | 9 | W | 30·15 | 29·93 | 50 | 47 | 50 | 45 | — | 64 | — |
| | 10 | SW | 29·93 | 29·80 | 52 | 50 | 52 | 49 | — | 86 | — |
| | 11 | W | 29·85 | 29·70 | 53 | 48 | 54 | 47 | — | 74 | 25 |
| | 12 | SW | 29·70 | 29·45 | 54 | 47 | 53 | 43 | — | 90 | — |
| | 13 | NW | 29·90 | 29·50 | 46 | 29 | 47 | 30 | — | 94 | 78 |
| | 14 | NE | 29·96 | 29·87 | 39 | 30 | 39 | 31 | — | 84 | |
| | 15 | SE | 29·87 | 29·55 | 34 | 26 | 35 | 27 | — | 62 | |
| | 16 | SE | 29·60 | 29·47 | 35 | 30 | 35 | 30 | — | 78 | — |
| | 17 | E | 30·00 | 29·60 | 41 | 34 | 42 | 35 | — | 91 | 40 |
| | 18 | E | 30·20 | 30·00 | 57 | 41 | 47 | 43 | 56 | 94 | 2 |
| | 19 | S | 30·40 | 30·20 | 50 | 36 | 51 | 37 | — | 100 | — |
| | 20 | S | 30·40 | 30·00 | 50 | 40 | 50 | 41 | — | 100 | 5 |
| | 21 | W | 30·13 | 30·00 | 50 | 33 | 50 | 31 | — | 71 | |
| | 22 | SW | 30·10 | 29·90 | 43 | 34 | | | — | 88 | 4 |
| | 23 | N | 29·90 | 29·80 | 42 | 33 | 44 | 34 | — | 90 | — |
| | 24 | NE | 29·84 | 29·79 | 35 | 30 | 35 | 31 | — | 64 | |
| | 25 | NE | 29·81 | 29·70 | 32 | 27 | 32 | 27 | — | 67 | |
| | 26 | E | 29·83 | 29·70 | 32 | 29 | 33 | 30 | — | 70 | |
| | 27 | E | 29·86 | 29·82 | 33 | 28 | 33 | 29 | — | 65 | |
| | 28 | E | 29·95 | 29·86 | 33 | 25 | 33 | 27 | — | 61 | |
| | 29 | E | 29·92 | 29·85 | 29 | 24 | 28 | 27 | — | 59 | |
| | 30 | E | 29·90 | 29·88 | 29 | 22 | 30 | 22 | — | 60 | |
| | 31 | NE | 29·90 | 29·80 | 30 | 21 | 30 | 22 | 45 | 58 | |
| | | | 30·40 | 29·45 | 57 | 21 | | | 1·01 | | 1·67 |

Notes.—Twelfth Mo. 1, 2. Cloudy. 3. Cloudy: windy night. 4. Fine. 5. Cloudy. 6—9. Cloudy. 10. Overcast: some rain. 11. Overcast. 12. Cloudy: rainy night. [13. Showers, with gusts of wind most of the day: some sleet at 1, p. m.: about half-past 8, p. m. a lunar corona surrounded by a double-coloured halo.—*Tott.*] 14. Fine. 15. Windy: bleak. 16. Rain: sleet: snow: boisterous. 17. Gloomy: ground covered with snow in the morning. 18. Gloomy: the snow nearly all gone. 19. [Drizzling rain: night somewhat misty, with *Cirri* above: a faint lunar halo, of the largest diameter, about 8, p. m.—*Tott.*] 20. Gloomy.

21. Gloomy: foggy. 22. Foggy morning: cloudy. 23. Overcast: drizzling. 24. Bleak. 25. Cloudy: bleak. 26, 27. Bleak and cloudy. 28. Fine clear morning: very cold wind. 29, 30. Cloudy: very cold and boisterous wind. 31. Overcast: cold wind.

## RESULTS.

Winds: N, 1; NE, 4; E, 8; SE, 2; S, 2; SW, 5; W, 5; NW, 4.

| | | |
|---|---|---|
| Barometer: | Greatest height | 30·40 in. |
| | Least | 29·45 in. |
| | Mean | 29·917 in. |
| Thermometer: | Greatest height | 57° |
| | Least | 21° |
| | Mean | 39·24° |
| | At Tottenham | 39·37° |
| | For 29 days, the sun in Capricorn | 42·482° |
| Evaporation | | 1·01 in. |
| Rain | | 1·67 in. |
| Rain at Tottenham | | 1·66 in. |
| Hygrometer: | Dry extreme | 58° |
| | Moist | 100° |
| | Mean | 78° |

### EARTHQUAKE AT ZANTE.

On the 29th of the month the isle of Zante was shaken by an earthquake, which did much damage. There was an apparent connexion between the subterraneous action and the state of the air, which have been usually reported of, as being perfectly independent of each other on these occasions.

Some days before, (as the Count Mercati reports,) the horizon was filled with dense clouds of an unusual appearance, in which the electricity seemed to be in continual action. On the day of the earthquake it lightened incessantly; the wind blew from SSE; the air was unusually sultry, Fahrenheit's thermometer being at 65°, with the barometer at 27 in. 4 lines Fr. The first shock, which took place at ten min. before 4 a. m. was preceded by a gust of wind, of extraordinary force, after which ensued a perfect calm. The usual subterraneous noise was then heard, and a triple concussion of 30″ duration followed, by which about three hundred houses were destroyed, and more damaged. A deluge of rain came after the shock, attended with hail of prodigious size: this was repeated on the night of the 30th, with the same violent SE wind. There was a second shock nine days after the first, and the weather continued stormy for twenty-five days in succession. On the day after the earthquake a large meteor is stated to have passed over the island, and flames were seen as if resting on the sea, to the south-east of the island, just before it. These electrical manifestations may certainly have no connexion with the earthquake itself; but the question will be best decided by our preserving, from time to time, accounts of the phenomena. I have abridged this from the *Journal de Physique*, tom. xcii. p. 466, in a communication addressed to M. de Férussac by Count Mercati.

| 1821. | | Wind. | By Clock. | | Temp. | | T. No. 2. | | Evap | Hygr. at 9 a. m. | Rain, &c. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Max. | Min. | Max. | Min. | Max. | Min. | | | |
| 1 mo. Jan. | 1 | E | 29·80 | 29·60 | 31° | 23° | 31° | 25° | — | 61 | |
| | 2 | E | 29·60 | 29·20 | 30 | 22 | 31 | 25 | — | 61 | |
| | 3 | E | 29·30 | 29·20 | 32 | 24 | 32 | 25 | — | 57 | |
| New M. | 4 | NE | 29·32 | 29·20 | 31 | 25 | 30 | 25 | — | 56 | |
| | 5 | E | 29·20 | 29·00 | 37 | 29 | 37 | 30 | — | 60 | — |
| | 6 | E | 29·15 | 29·00 | 41 | 33 | 39 | 35 | — | 88 | — |
| | 7 | N | 29·16 | 29·00 | 39 | 34 | 41 | 35 | — | 86 | — |
| | 8 | E | 29·10 | 28·90 | 45 | 34 | 44 | 36 | — | 89 | 70 |
| | 9 | E | 29·07 | 28·89 | 43 | 37 | 43 | 39 | — | 96 | |
| | 10 | SW | 29·08 | 28·93 | 44 | 37 | 45 | 40 | — | 93 | 17 |
| | 11 | E | 29·20 | 29·00 | 46 | 38 | 47 | 40 | — | 100 | 28 |
| | 12 | S | 29·48 | 29·20 | 51 | 44 | 51 | 42 | — | 94 | 5 |
| | 13 | W | 29·50 | 29·02 | 51 | 41 | 52 | 40 | — | 76 | — |
| | 14 | NE | 30·08 | 29·50 | 42 | 30 | 43 | 39 | — | 80 | 1·20 |
| | 15 | SE | 30·00 | 29·56 | 49 | 33 | 50 | 34 | — | 90 | 42 |
| | 16 | W | 30·13 | 29·80 | 48 | 34 | 50 | 30 | — | 77 | |
| | 17 | SW | 30·23 | 30·14 | 46 | 39 | 48 | 39 | — | 91 | — |
| | 18 | SW | 30·32 | 30·23 | 52 | 45 | 53 | 47 | 25 | 92 | 2 |
| | 19 | SW | 30·37 | 30·26 | 48 | 40 | 48 | 39 | — | 92 | |
| | 20 | W | 30·65 | 30·37 | 50 | 28 | 51 | 30 | — | 83 | 5 |
| | 21 | Var. | 30·67 | 30·60 | 44 | 28 | 39 | 29 | — | 70 | |
| | 22 | NW | 30·77 | 30·60 | 45 | 35 | 44 | 36 | — | 73 | |
| | 23 | NE | 30·77 | 30·67 | 40 | 27 | 42 | 26 | — | 80 | |
| | 24 | SE | 30·67 | 30·59 | 36 | 28 | 36 | 29 | — | 91 | |
| | 25 | SW | 30·62 | 30·55 | 48 | 34 | 45 | 36 | — | 94 | |
| | 26 | NE | 30·55 | 30·35 | 45 | 34 | 41 | 35 | — | 77 | |
| | 27 | E | 30·35 | 30·19 | 38 | 32 | 38 | 34 | — | 78 | |
| | 28 | S | 30·21 | 30·17 | 35 | 30 | 35 | 30 | — | 84 | |
| | 29 | SE | 30·27 | 30·15 | 45 | 30 | 43 | 29 | — | 90 | |
| | 30 | SW | 30·38 | 30·26 | 50 | 42 | 51 | 41 | — | 94 | |
| | 31 | SW | 30·40 | 30·35 | 51 | 44 | 52 | 45 | 35 | 84 | |
| | | | 30·77 | 28·89 | 52 | 22 | | | 60 | | 2·89 |

NOTES.—First Mo. 1. A strong cold wind. 2—4. Cloudy: bleak. 5. Morning fine: about two inches of snow in the evening: followed by hail and rain, which thawed nearly all of it before morning. 6. Cloudy: the thaw continuing. 7. Cloudy. 8. Fine: cloudy. 9. Foggy. 10. Foggy: cloudy. 11. Rainy. 12. Rainy: fine at intervals. 13. Cloudy: very rainy night. 14. Rainy day: a lunar corona in the evening. 15,16. Cloudy: fine at intervals. 17—20. Cloudy: a lunar corona in the evening, surrounded by a large halo.

21. Foggy morning: very fine day. 22. Gloomy: fine. 23. Fine. 24. Gloomy: foggy. 25. Ditto. 26. Cloudy. 28. Ditto. 25. Foggy: misty. 29. Fine clear morning: fine day. 30, 31. Fine. [*Tottenham.*—1. Cloudy: a little hard frozen snow falling most of the day. 2. Very windy in the night. 3. The *dust* is exceedingly troublesome, as for some days past. 7. The snow almost gone: rather misty: rain in the night. 8. Misty, a. m.: fine afterwards: the snow is gone. 9. The trees and shrubs dripping with the mist: fog at night. 12. Cloudy, a. m.: temp. 51° at noon: the bees out in great numbers, going some distance from the hive. 13. *Bees out again: rain in the evening.* 14. The marshes flooded. 15. Gloomy, a. m.: rainy, p. m.: very stormy night. 16. Very fine day: cloudy at intervals, and a large lunar halo about half-past 8, p. m. 22. Rather misty: the trees dripping.]

## RESULTS.

Winds N, 1; NE, 4; E, 9; SE, 3; S, 2; SW, 7; W, 3; NW, 1; Var. 1.

| | | |
|---|---|---|
| Barometer: | Greatest height | 30·77 in. |
| | Least | 28·89 in. |
| | Mean | 29·854 in. |
| Thermometer: | Greatest height | 52° |
| | Least | 22° |
| | Mean | 38·17° |
| | At Tottenham | 38·66° |
| | For 30 days, the sun in Sagittarius | 35·616° |
| Evaporation | | 0·60 in. |
| Rain | | 2·89 in. |
| Rain at Tottenham | | 2·98 in. |
| Hygrometer: | Dry extreme | 56° |
| | Moist | 100° |
| | Mean | 81° |

*Extract of a Letter from a Friend.*

*Philadelphia, First Mo.* 20.—This winter has been rather uncommon—some say, 'like old times.' The snow lies about fifteen inches deep on the level, which affords an opportunity of travelling with facility, in that easy, comfortable manner in *sleighs*, [sledges,] which you are unacquainted with.—A. W.

| 1821. | | Wind. | By Clock. | | Temp. | | T. No. 2. | | Evap | Hygr. at 9 a. m. | Rain, &c. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Max. | Min. | Max. | Min. | Max. | Min. | | | |
| 2 mo. Feb. | 1 | SW | 30·34 | 30·10 | 52° | 44° | 54° | 44° | — | 63 | |
| New M. | 2 | W | 30·34 | 30·23 | 50 | 31 | 52 | 29 | — | 80 | |
| | 3 | W | 30·23 | 29·88 | 48 | 39 | 49 | 35 | — | 77 | |
| | 4 | W | 30·65 | 29·88 | 44 | 25 | 47 | 26 | — | 70 | — |
| | 5 | NW | 30·80 | 30·65 | 39 | 24 | 40 | 23 | — | 67 | |
| | 6 | SW | 30·77 | 30·67 | 42 | 27 | 43 | 23 | — | 60 | |
| | 7 | SW | 30·68 | 30·00 | 45 | 27 | 44 | 26 | — | 68 | |
| | 8 | S | 30·50 | 30·10 | 49 | 21 | 47 | 22 | — | 55 | |
| | 9 | Var. | 30·30 | 30·02 | 45 | 29 | 46 | 29 | — | 73 | |
| | 10 | NE | 30·40 | 30·30 | 46 | 28 | 46 | 30 | — | 73 | |
| | 11 | NE | 30·30 | 30·20 | 45 | 27 | 42 | 28 | — | 61 | |
| | 12 | NE | 30·32 | 30·25 | 40 | 32 | 41 | 31 | — | 80 | |
| | 13 | NE | 30·30 | 30·20 | 39 | 30 | 39 | 32 | 55 | 66 | |
| | 14 | Var. | 30·37 | 30·22 | 34 | 31 | 36 | 31 | — | 59 | |
| | 15 | NE | 30·55 | 30·38 | 35 | 21 | 39 | 22 | — | 74 | |
| | 16 | NE | 30·50 | 30·30 | 38 | 26 | 38 | 24 | — | 71 | |
| | 17 | SE | 30·30 | 30·11 | 33 | 26 | 34 | 28 | — | 80 | |
| | 18 | NW | 30·29 | 30·09 | 39 | 27 | 40 | 28 | — | 67 | — |
| | 19 | NW | 30·30 | 30·10 | 40 | 22 | | | — | 66 | |
| | 20 | NW | 30·13 | 30·07 | 40 | 30 | | | — | 62 | 8 |
| | 21 | NW | 30·30 | 30·13 | 40 | 27 | | | — | 79 | |
| | 22 | SE | 30·30 | 30·22 | 42 | 20 | 46 | 22 | — | 65 | |
| | 23 | NW | 30·22 | 30·10 | 37 | 20 | | | — | 76 | |
| | 24 | NW | 30·10 | 30·05 | 37 | 24 | 44 | 21 | — | 91 | |
| | 25 | NW | 30·07 | 30·00 | 44 | 32 | 45 | 33 | — | 79 | — |
| | 26 | E | 30·08 | 29·80 | 35 | 18 | 35 | 17 | — | 66 | |
| | 27 | SE | 29·80 | 29·20 | 38 | 24 | 37 | 30 | — | 62 | — |
| | 28 | SE | 29·30 | 29·12 | 37 | 31 | | | 52 | 71 | 23 |
| | | | 30·80 | 29·12 | 52 | 18 | | | 1·07 | | 0·31 |

NOTES.—Second Mo. 1, 2. Fine. 3. Fine: cloudy. 4. Overcast. 5. Fine: hoar frost in the morning. 6. Hoar frost. 7. Hoar frost: very fine morning: lunar corona at night. 8. Hoar frost: fine. 9. Hoar frost: cloudy: fine. 10. Cloudy. 11. Cloudy: fine at intervals. 12—15. Cloudy. 16. Lunar corona. 17. Cloudy. 18. Fine: a shower about 10, p. m. 19. Fine. 20. Hoar frost: a shower in the evening. 21. *Cirrocumulus,* and *Cirrostratus* streaked like an agate. 22. Hoar frost. 23, 24. Hoar frost: foggy. 25. Cloudy. 26. Cloudy: bleak. 27. Very fine morning. 28.

Snowy. [*Tott.* 23. A fine day. In the evening my son, J.E. Howard, observed a comet in the west, near the star $\gamma$ in Pegasus. 27. The zodiacal light was distinctly seen.]

## RESULTS.

Winds: NE, 6; E, 1; SE, 4; S, 1; SW, 3; W, 3; NW, 8; Var. 2.

| | | |
|---|---|---|
| Barometer: | Greatest height | 30·80 in. |
| | Least | 29·12 in. |
| | Mean | 30·195 in. |
| Thermometer: | Greatest height | 52° |
| | Least | 18° |
| | Mean | 34·21° |
| | At Tottenham | 34·52° |
| | For 29 days, the sun in Aquarius | 36·741° |
| Evaporation | | 1·07 in. |
| Rain | | 0·31 in. |
| Rain at Tottenham | | 0·08 in. |
| Hygrometer: | Dry extreme | 55° |
| | Moist | 91° |
| | Mean | 70° |

[The latter part of the winter is remarkable for a degree of density in the atmosphere, such as very seldom occurs, even at this season, for a long time together. On the 16th of last month the barometer rose to 30·13 inches: since which time, with the exception of a dip to 29·88 in. on the 3d, (which was immediately followed by a bold rise,) it has ranged above thirty inches, up to the 26th current; and has twice attained the extraordinary elevation of 30·80 in. In this period of forty days we have the following distribution of winds, viz.:—NE, 8: NW, 9: W, 5: SW, 9: SE, 3: S, 2: E, 1: Var. 3; and there has fallen only fifteen hundredths of an inch of rain. The slight depression occurred with the wind at W, about the middle of the period; and a course of easterly winds in the fore part of last month apparently introduced the whole. The *causes concurring* to maintain this state of density and dryness, for so long a period, may be a subject for discussion in another part of this work.—L. H.]

| 1821. | | Wind. | By Clock. | | Temp. | | T. No.2. | | Evap | Hygr. at 9 a. m. | Rain, &c. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Max. | Min. | Max. | Min. | Max. | Min. | | | |
| 3 mo. March | 1 | SE | 29·80 | 29·30 | 48° | 32° | 48° | 32° | — | 94 | 3 |
| | 2 | SW | 29·80 | 29·60 | 51 | 40 | 51 | 38 | — | 84 | 26 |
| | 3 | SW | 29·60 | 29·57 | 52 | 45 | 53 | 44 | — | 100 | — |
| New M. | 4 | SW | 29·95 | 29·70 | 54 | 33 | 59 | 34 | — | 82 | 31 |
| | 5 | NE | 30·00 | 29·70 | 35 | 30 | 36 | 31 | — | 80 | |
| | 6 | SE | 29·70 | 29·39 | 45 | 35 | 45 | 36 | — | 88 | 32 |
| | 7 | W | 29·55 | 29·10 | 53 | 44 | 57 | 44 | — | 86 | 22 |
| | 8 | NW | 29·60 | 29·11 | 52 | 40 | 57 | 38 | — | 83 | 13 |
| | 9 | W | 29·61 | 29·45 | 54 | 47 | 56 | 45 | — | 76 | 8 |
| | 10 | SW | 29·77 | 29·58 | 58 | 40 | 60 | 37 | — | 78 | 5 |
| | 11 | SW | 29·90 | 29·77 | 55 | 33 | 55 | 35 | — | 67 | |
| | 12 | Var. | 30·00 | 29·90 | 54 | 39 | 56 | 37 | — | 90 | 3 |
| | 13 | SW | 30·18 | 30·00 | 56 | 36 | 60 | 36 | — | 89 | 3 |
| | 14 | N | 30·40 | 30·18 | 49 | 24 | 51 | 25 | 56 | 76 | |
| | 15 | NE | 30·36 | 30·20 | 51 | 26 | 51 | 26 | — | 78 | |
| | 16 | Var. | 30·20 | 29·90 | 53 | 24 | 55 | 24 | — | 80 | |
| | 17 | NE | 29·90 | 29·40 | 55 | 37 | 53 | 38 | — | 79 | 12 |
| | 18 | NW | 29·40 | 29·10 | 49 | 35 | 51 | 36 | — | 64 | 27 |
| | 19 | NW | 29·20 | 29·10 | 45 | 34 | 49 | 34 | — | 61 | — |
| | 20 | NW | 29·27 | 29·15 | 47 | 35 | 49 | 34 | — | 58 | |
| | 21 | NW | 29·67 | 29·20 | 46 | 34 | 50 | 33 | 55 | 61 | — |
| | 22 | NW | 30·10 | 29·67 | 47 | 26 | 49 | 26 | — | 64 | — |
| | 23 | NW | 30·08 | 29·60 | 47 | 35 | 52 | 34 | — | 64 | |
| | 24 | S | 29·60 | 29·27 | 48 | 42 | 51 | 42 | — | 58 | 20 |
| | 25 | SW | 29·59 | 29·30 | 51 | 32 | 54 | 30 | — | 88 | 9 |
| | 26 | SW | 29·50 | 29·14 | 50 | 38 | 52 | 40 | — | 67 | 7 |
| | 27 | SW | 29·30 | 29·00 | 48 | 33 | 52 | 34 | — | 62 | — |
| | 28 | SE | 29·00 | 28·93 | 58 | 41 | | | 55 | 87 | 43 |
| | 29 | SW | 29·65 | 29·00 | 47 | 34 | 49 | 32 | — | 86 | 7 |
| | 30 | SW | 29·66 | 29·27 | 50 | 36 | 56 | 37 | — | 78 | 10 |
| | 31 | SW | 29·60 | 29·27 | 51 | 32 | 57 | 30 | 20 | 86 | 11 |
| | | | 30·40 | 28·93 | 58 | 24 | | | 1·86 | | 2·92 |

Notes.—Third Mo. 1. Cloudy. 2. Showery afternoon. 3, 4. Rainy. 5. Cloudy. 6. Rainy. 7. Fine day: rainy evening. 9. Showery. 10. Showery. 11, 12. Fine. 13. Fine morning: a slight shower of hail about noon: lunar halo in the evening. 14. Fine: lunar corona. 15. White frost: fine: a very distinct lunar halo, slightly coloured. 16, 17. Fine: white frosts in the morning. 18. Boisterous: frequent showers of mingled hail, snow, and rain. 19. Windy: hail. 20. Windy: cold. 21. Cloudy. 22. Hail.

23. Fine. 24, 25. Showery. 26. Fine day: boisterous night. 27. Boisterous. 28. Rainy: windy. 29. Showers. 30. Fine: rain at night. 31. Rainy. [*Tott.*—6. A little snow in the night. 7. Windy, p. m. 8. Fine, a. m.: very wet most of the day: rather windy at night. 23. Hoar frost. 24. Stormy at night. 25. *A very beautiful sunset.* 26. Slight hoar frost. 31. Hail, twice.]

## RESULTS.

Winds: N, 1; NE, 3; SE, 3; S, 1; SW, 12; W, 2; NW, 7; Var. 2.

| | | |
|---|---|---|
| Barometer: | Greatest height | 30·40 in. |
| | Least | 28·93 in. |
| | Mean | 29·596 in. |
| Thermometer: | Greatest height | 58° |
| | Least | 24° |
| | Mean | 42·76° |
| | At Tottenham | 43·61° |
| | For 30 days, the sun in Pisces | 39·383° |
| Evaporation | | 1·86 in. |
| Rain | | 2·92 in. |
| Rain at Tottenham | | 3·44 in. |
| Hygrometer: | Dry extreme | 58° |
| | Moist | 100° |
| | Mean | 77° |

### A Tropical Sunset.

Sept. 18.—Within 3° of the line. 'This evening we had a most beautiful sunset—the most remarkable recollected by any of the officers or passengers, and, I think, the most magnificent spectacle I ever saw. Beside the usual tints of crimson, flame-colour, &c. which the *clouds* displayed, and which were strangely contrasted with the deep blue of the sea, and the lighter but equally beautiful blue of the sky, there were in the immediate neighbourhood of the sinking sun, and for some time after his disk had disappeared, large tracts of *pale translucent green*, such as I had never seen before except in a prism, and surpassing every effect of paint, or glass, or gem. Every body on board was touched and awed by the glory of the scene, and many observed that such a spectacle, *alone*, was worth the whole voyage from England.'—*Bishop Heber's Narrative, &c.* Green is a rare colour in the heavens—in which arrangement we may admire the wisdom of the Creator, who hath so richly clothed the *earth* in that livery.

# TABLE CLXXIX.

| 1821. | | Wind. | By Clock. | | Temp. | | T. No. 2. | | Evap | Hygr. at 9 a. m. | Rain, &c. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Max. | Min. | Max. | Min. | Max. | Min. | | | |
| 4 mo. April | 1 | W | 29·60 | 29·27 | 51° | 43° | 56° | 43° | — | 63 | 17 |
| New M. | 2 | W | 29·23 | 29·10 | 58 | 38 | | | — | 72 | 25 |
| | 3 | W | 29·25 | 29·20 | 51 | 37 | | | — | 62 | 1 |
| | 4 | NW | 29·50 | 29·22 | 55 | 34 | 59 | 36 | — | 64 | |
| | 5 | NW | 30·07 | 29·50 | 52 | 31 | 54 | 31 | — | 60 | |
| | 6 | NW | 30·05 | 29·92 | 49 | 42 | 53 | 41 | 55 | 56 | 10 |
| | 7 | NW | 30·14 | 30·01 | 59 | 48 | 63 | 45 | — | 92 | |
| | 8 | W | 30·12 | 29·90 | 67 | 43 | 71 | 41 | — | 59 | |
| | 9 | SW | 29·90 | 29·68 | 65 | 44 | 69 | 47 | 32 | 81 | |
| | 10 | NW | 29·68 | 29·50 | 64 | 47 | 68 | 46 | — | 68 | — |
| | 11 | SW | 29·50 | 29·25 | 61 | 41 | 63 | 40 | — | 67 | 23 |
| | 12 | W | 29·35 | 29·20 | 54 | 38 | 57 | 36 | — | 60 | — |
| | 13 | W | 29·63 | 29·35 | 54 | 36 | 57 | 33 | — | 62 | 2 |
| | 14 | S | 29·50 | 29·20 | 51 | 37 | 53 | 33 | 52 | 63 | 12 |
| | 15 | SW | 29·50 | 29·33 | 54 | 30 | 58 | 29 | — | 68 | 3 |
| | 16 | Var. | 29·40 | 29·33 | 59 | 27 | 58 | 28 | — | 61 | |
| | 17 | NW | 29·67 | 29·40 | 58 | 38 | 61 | 35 | — | 58 | — |
| | 18 | NW | 29·75 | 29·55 | 51 | 40 | 62 | 37 | — | 63 | 6 |
| | 19 | SW | 29·55 | 29·40 | 57 | 48 | 55 | 49 | 40 | 70 | 36 |
| | 20 | NW | 29·80 | 29·52 | 65 | 42 | 64 | 44 | — | 79 | 12 |
| | 21 | N | 29·98 | 29·80 | 59 | 42 | 61 | 42 | — | 81 | |
| | 22 | NE | 29·85 | 29·48 | 59 | 45 | 65 | 46 | — | 73 | |
| | 23 | E | 29·48 | 29·22 | 70 | 50 | 73 | 51 | 30 | 81 | 4 |
| | 24 | SW | 29·63 | 29·45 | 70 | 42 | 73 | 43 | — | 68 | |
| | 25 | E | 29·73 | 29·65 | 74 | 44 | 76 | 46 | — | 64 | |
| | 26 | E | 29·70 | 29·60 | 78 | 48 | 79 | 51 | — | 63 | — |
| | 27 | W | 29·80 | 29·70 | 67 | 40 | 71 | 41 | 57 | 69 | |
| | 28 | N | 29·83 | 29·75 | 71 | 43 | 76 | 44 | — | 61 | |
| | 29 | N | 30·03 | 29·82 | 63 | 47 | 65 | 48 | — | 63 | |
| | 30 | NE | 30·07 | 29·90 | 51 | 45 | 55 | 46 | 25 | 67 | 1 |
| | | | 30·14 | 29·10 | 78 | 27 | | | 2·91 | | 1·52 |

Notes.—Fourth Mo. 1. Fine: rain at night. 2. Showery: windy. 3. Squalls, with hail and *Nimbi*. 4, 5. Fine. 6, 7. Cloudy. 8. Very fine: thermometer 63° at half-past nine. 10. Cloudy: some appearance of thunder, p. m.: lunar halo. 11. Cloudy: windy. 12. Showery: gusty: at Tottenham a heavy hail-storm. 13. Slight showers: gusty. 14. Showery: windy. 15. Ditto: at Tottenham thunder was twice heard to the N, there being at the time many large *Nimbi*, and the first *swallow* made its appearance. 16. Fine: a hoar-frost in the morning. 17. Hoar-frost: thundered twice at half-

past four, p. m. 18. Showery: frequent rainbows during the afternoon; one was observed with *two* bows at some distance beneath it. 19. Showery: boisterous night. 20. Slight showers during the day: very frequent lightning in the evening: a thunder-storm about seven, p. m.: the lightning extremely vivid, and nearly continuous from SW to SE, and much forked: some flashes descending perpendicularly to the earth. 21. Cloudy: clear night: swallows now numerous. 22. Very fine morning. 23. Fine: some lightning at night. 24. Very fine. 25. Ditto. 26. Sultry day: incessant lightning in the evening, which continued nearly all night in every quarter of the horizon, and very distant.

## RESULTS.

Winds: N, 3; NE, 2; E, 3; S, 1; SW, 5; W, 7; NW, 8; Var. 1.

| | | |
|---|---|---|
| Barometer: | Greatest height | 30·14 in. |
| | Least | 29·10 in. |
| | Mean | 29·61 in. |
| Thermometer: | Greatest height | 78° |
| | Least | 27° |
| | Mean | 50·12° |
| | At Tottenham | 51·95° |
| | For 30 days, the sun in Aries | 45·633° |
| Evaporation | | 2·91 in. |
| Rain | | 1·52 in. |
| Rain at Tottenham | | 1·92 in. |
| Hygrometer: | Dry extreme | 56° |
| | Moist | 92° |
| | Mean | 67° |

*Woburn, Fourth Mo. 26th.*—The heat appears now to be breaking through the wet and cloudy season. Wind about SE, brisk, therm. 68 to 72° in the shade in the carriage: *Cumuli* and *Nimbi*, chiefly to the N, and distant. Yesterday was oppressively warm on the sands at Aspley. In the evening most beautiful tints of lake and purple on the clouds: an appearance for thunder ever since morning, on clouds which still go away to NW. 27th. Observed a Solar halo for about an hour this forernoon, in going from Woburn to Leighton Buzzard. It was perfect, and of the usual larger diameter, formed in haze connected with a large plumose *Cirrus*, rising from the SE, or windward quarter, and pointed to the opposite. In the evening, as we returned, temp. 70°, this *Cirrus* was yet visible, together with thunder-clouds in different quarters, the lightning beginning to appear in one group to the SW. In the night it lightened much, and about break of day the storm came near, with continued vivid flashes and rolling thunder, followed by heavy rain.

My relation, Richard Thomas How, residing here, showed me a remarkable instance of the fertility of wheat in this soil, when well watered. The sand, in very wet seasons, is said to 'feed the clay'—but the present was an accidental

product. It was a quantity of wheat, said to be of the Red Lammas kind, which grew, apparently from one single root, in a meadow by Apsley brook. My cousin saw the plant growing from which it was taken. It was of ordinary good quality, and tasted yet well, though about fourteen years old, *having been kept in a bottle.* By weighing the whole, which counterpoised *ten guineas* in the scale, and counting a part, we made it to contain two thousand two hundred and seventy grains of wheat, produced, as my friend thought, from one single grain! [So far, in substance, my notes—but having since had occasion to witness the growth and produce of different kinds of grain, here at Ackworth, I am enabled to state what will render the case more than doubtful, *as to the fact of one seed for so great a product*, and explain the circumstance in another way. In the last season, (1830,) my wheat having suffered by the frosts of the preceding winter, and come up thin in one field, 'stooled out' very much in the stems. At harvest I pulled up one plant grown quite by itself, which had *twenty-two straws.* These, carefully washing the roots, I was enabled to assign to three several plants, which had grown with the roots completely matted into a firm ball together. So that the average product of wheat growing thus, in a free soil, may not exceed seven stems with an ear to each, or about one-tenth of the foregoing apparent increase. It was perhaps *the hoard of a mouse* from a neighbouring field, placed too near the water, which having become wet had grown, making *a larger mat of roots*, of the kind which I examined as above mentioned.]—L. H.

## Climate of Rome.

There falls in general no rain at Rome, save in the months of November and December; but in that season the rains are continual and most abundant. Except in those months, the weather is almost always delightful, though subject at times to the *sirocco;* which wind, however, prevails rarely for more than two or three days at a time. The spring is very sensibly forwarder than at Paris, *and they eat green peas from the first of April.* The trees are also much sooner green than in France, but their beauty is gone in a fortnight, with those, at least, that cast their leaves. The colour of these is deeper than in France, which is said by artists to be a consequence of the contrast with a red soil. [More probably the result of a powerful sunshine.]

The summers breed often tertian agues, of a putrid type; but it happens also, occasionally, that they are cut short by sudden storms of rain and hail with northerly winds. It is less the great *heat* at Rome, than its *long continuance*, which is so much to be dreaded. There is almost always at mid-day a refreshing breeze, which restores the strength; and in the afternoon, during the greatest heats, comes the *siesta*, and a cool night makes amends for the hottest day. In the evening there falls so much *dew*, that for two hours after dark scarce any body stirs out.—*Voyage d'un Francois en Italie, &c.* tom. 5, p. 274. 1765—6.

## Sand Winds.

*From Park's Travels.*—"In the afternoon [of March 25, at *Bcowne*] the horizon to the eastward was thick and hazy, and the Moors prognosticated a Sand wind; which accordingly commenced on the morning following, and lasted with slight intermissions for two days. The force of the wind was not in itself very great: it made what the seamen would have denominated 'a stiff breeze;' but the quantity of sand and dust carried before it was such as to darken the whole

atmosphere. It swept along from to E to W, in a thick and constant stream; and the air was at times so full of sand, that it was difficult to discern the neighbouring tents. The Moors wrap a cloth round their faces *to prevent inhaling the sand*, and always turn their backs to the wind when they look up."

From Jackson's *Account of the Empire of Morocco*, 1814, p. 283.

"In this fatiguing journey [of four months, across the desert between Fas and Soudan] the akkabahs do not proceed in a direct line across the trackless desert to the place of their destination, but turn occasionally eastward or westward, according to the situation of certain fertile, inhabited, and cultivated spots, interspersed in various parts like islands in the ocean, called *Oas* or *Oases*, El Wahah. These serve as watering-places, to refresh and replenish the hardy and patient camel.

"These stages are very dangerous when the hot and impetuous winds, denominated *Shume*, convert the desert into a moveable sea, aptly denominated by the Arabs, '*El bar billa maa*,' *a sea without water*, more dangerous than the perfidious waves of the ocean. If the Shume continues long, the most numerous caravans are often buried under sands, which like the tempestuous billows in a storm, advance in an undulating manner, stopping and accumulating wherever they find the smallest substance to impede their progress; insomuch, that in a few hours a mountain of sand is thus accumulated, where it was before an uninterrupted plain. I have felt the *Shume* twenty leagues out at sea. When in N lat. 30° long. 11° 30′ W, I astonished the captain of the ship, by directing his attention to particles of sand, which fell on the deck; and although the mariners actually collected about a wine-glass full of this sand by sweeping the deck, yet he would scarcely credit the cause to which I ascribed it, until we reached Agadeer, where we met with daily proofs of the effects of this tremendous wind."

From a paper on the *Climate, &c. of the Southern Mahratta Country*, in the Edin. New Philo. Journal.

"The second division, or the plains in the central and eastern parts of the district, [Darwar,] are precisely similar to the extensive plains of cotton-ground met with in every part of India. They are almost entirely in a state of cultivation, covered during the rainy and cold season with luxuriant crops. In the hot months the scene is entirely changed; you then look around on an arid plain, whose deep black soil is every where intersected by wide fissures. Not a patch of verdure, not a tree or a shrub is to be seen. *Clouds of dust are swept along by the parching winds, or huge pillars of it, raised up by whirlwinds, are seen stalking across the plain; or, if the atmosphere be calm, fixed for a length of time to one spot.*"

| 1821. | Wind. | By Clock. | | Temp. | | T. No. 2. | | Evap | Hygr. at 9 a. m. | Rain, &c. |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Max. | Min. | Max. | Min. | Max. | Min. | | | |
| N. M. 5m. May 1 | NE | 29·90 | 29·78 | 61° | 38° | 64° | 37° | — | 65 | |
| 2 | NE | 29·78 | 29·61 | 67 | 52 | 70 | 52 | — | 62 | |
| 3 | SW | 29·63 | 29·60 | 71 | 44 | 73 | 44 | — | 67 | |
| 4 | SW | 29·63 | 29·45 | 73 | 42 | 75 | 42 | — | 64 | |
| 5 | SE | 29·45 | 29·30 | 72 | 45 | 73 | 45 | 52 | 59 | |
| 6 | SW | 29·86 | 29·45 | 62 | 42 | 64 | 39 | — | 58 | 4 |
| 7 | SW | 29·92 | 29·80 | 65 | 42 | 65 | 53 | — | 58 | 2 |
| 8 | SW | 30·15 | 29·92 | 63 | 38 | | | — | 80 | 7 |
| 9 | NW | 30·25 | 30·15 | 65 | 42 | 67 | 36 | 50 | 64 | |
| 10 | NW | 30·20 | 29·90 | 64 | 44 | 65 | 41 | — | 60 | — |
| 11 | NW | 29·90 | 29·79 | 70 | 54 | 73 | 54 | — | 73 | |
| 12 | NW | 29·75 | 29·22 | 62 | 41 | 66 | 38 | — | 63 | |
| 13 | NW | 29·28 | 29·22 | 56 | 38 | 64 | 37 | 45 | 61 | 12 |
| 14 | NW | 29·29 | 29·06 | 59 | 42 | 61 | 41 | — | 64 | 18 |
| 15 | SW | 29·78 | 29·10 | 54 | 38 | 64 | 35 | — | 80 | 28 |
| 16 | W | 29·95 | 29·78 | 57 | 38 | 65 | 36 | — | 65 | 7 |
| 17 | Var. | 29·97 | 29·74 | 56 | 42 | 61 | 47 | — | 65 | 62 |
| 18 | NW | 30·25 | 29·97 | 60 | 36 | 66 | 35 | 48 | 71 | |
| 19 | NW | 30·23 | 30·17 | 64 | 40 | 68 | 42 | — | 61 | 10 |
| 20 | NE | 30·20 | 30·02 | 59 | 31 | 60 | 32 | — | 67 | |
| 21 | NE | 30·02 | 29·90 | 61 | 32 | 60 | 32 | — | | |
| 22 | NE | 29·90 | 29·70 | 57 | 37 | 60 | 37 | — | | |
| 23 | NE | 29·97 | 29·70 | 51 | 30 | 54 | 34 | 45 | | — |
| 24 | N | 30·00 | 29·70 | 55 | 29 | | | — | | |
| 25 | SW | 29·75 | 29·67 | 61 | 34 | 65 | 30 | — | | 21 |
| 26 | NW | 29·87 | 29·75 | 52 | 30 | 55 | 31 | — | | — |
| 27 | NW | 29·93 | 29·84 | 57 | 39 | 63 | 39 | — | | 5 |
| 28 | NW | 30·12 | 29·92 | 58 | 38 | 61 | 38 | 45 | | 8 |
| 29 | NW | 30·20 | 30·12 | 61 | 34 | 67 | 37 | — | | |
| 30 | E | 30·20 | 30·10 | 66 | 39 | | | — | | |
| 31 | E | 30·10 | 30·00 | 64 | 40 | 69 | 44 | 35 | | |
| | | 30·25 | 29·06 | 73 | 29 | | | 3·20 | | 1·84 |

Notes.—Fifth Mo. 1. Cloudy: fine towards evening. 2. Cloudy. 3, 4. Fine. 5. Cloudy: fine. 6. Showery. 7. Fine. 8. Showery. 9. Fine. 10. Cloudy: fine. 11, 12. Fine. 13. Showers. 14. Fine. 15. Showery morning: thunder, p. m. with large hail. 16. Showers. 17. Rainy. 18, 19. Fine. 20. Fine: cold wind. 21. Ditto. 22. Cloudy: cold wind. 23. Showers: cold wind. 24. Cloudy and cold. 25. Cloudy: rainy night. 26. Slight showers: some snow. 27. Cloudy: cold wind. 28. Showery: a thunder-storm in the neighbourhood about 5 p. m. with large hail and heavy rain. 29. Fine.

30. Fine. 31. Fine. [*Tott.*—1. Very fine *Cirrocumuli*, p.m. 2. *Cirrocumulus*, a.m. 3. Hazy, but fine. 4. Shower, p.m. 6. Large hail about noon. 7. Windy: showery at night. 10. Showery, p.m. 11. A few drops, p.m. 12. Showers, ev. 13. Showers: hail about 11 a.m. A very large solar halo, ev. 14. Showers: a little hail, a.m. 15. Squalls, with thunder, p.m. 27. Showers. 28. Thunder-storm in the W, about 4 p.m. and a very violent shower of rain and hail about six.]

## RESULTS.

Winds: N, 1; NE, 6; E, 2; SE, 1; SW, 7; W, 1; NW, 12; Var. 1.

| | | |
|---|---|---|
| Barometer: | Greatest height | 30·25 in. |
| | Least | 29·06 in. |
| | Mean | 29·82 in. |
| Thermometer: | Greatest height | 73° |
| | Least | 29° |
| | Mean | 50·22° |
| | At Tottenham | 52·00° |
| | For 30 days, the sun in Taurus | 53·290° |
| Evaporation | | 3·20 in. |
| Rain | | 1·84 in. |
| —— at Tottenham | | 2·18 in. |
| Hygrometer (for 20 days): | Dry extreme | 58° |
| | Moist | 80° |
| | Mean | 65° |

### Climate of Naples.

The climate of *Naples* is hot in the extreme, not merely from its position, being at 41° only from the equator, but also from the circumstance of its lying amidst mountains, which concentrate and reflect the heat; to which causes we may perhaps add the heat of subterraneous fires in Vesuvius and the Salfatara. The heat of summer here is insupportable to a Frenchman, till the rains, which fall at the end of September, have a little moderated its intensity. To compensate for this, they have a delicious winter, in which there is no need of the aid of fire for warmth to the person. The few fire-places, which have been made in great houses within a few years, are more the effect of fashion than of any real want of them. Every day in the year you may see the little boys in the lower town running about quite naked, and the girls with only a shift on. It rains at Naples, this great heat notwithstanding, as much and more than at Paris.

*Voyage d'un Francois en Italie, &c.* 1765—6.

| 1821. | | Wind. | By Clock. | | Temp. | | T. No.2. | | Evap | Hygr. at 9 a. m. | Rain, &c. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Max. | Min. | Max. | Min. | Max. | Min. | | | |
| 6 mo. June | 1 | E | 30·02 | 29·90 | 74° | 43° | 77° | 44° | — | | |
| | 2 | NE | 29·90 | 29·77 | 76 | 44 | 78 | 47 | — | | |
| | 3 | NE | 29·77 | 29·57 | 75 | 47 | 75 | 48 | 42 | | 3 |
| | 4 | NW | 29·71 | 29·58 | 67 | 45 | | | — | | 3 |
| | 5 | NW | 29·90 | 29·71 | 74 | 52 | 80 | 48 | — | | 34 |
| | 6 | NW | 29·90 | 29·58 | 69 | 48 | 73 | 46 | 33 | | 11 |
| | 7 | SW | 29·70 | 29·52 | 69 | 50 | 72 | 50 | — | | 1·08 |
| | 8 | NE | 29·78 | 29·67 | 56 | 36 | 65 | 35 | — | | |
| | 9 | NW | 29·74 | 29·67 | 68 | 40 | 65 | 38 | — | | 12 |
| | 10 | NW | 29·93 | 29·68 | 60 | 35 | 62 | 38 | — | | 10 |
| | 11 | NE | 30·22 | 29·93 | 57 | 43 | | | 40 | | 8 |
| | 12 | Var. | 30·27 | 30·21 | 57 | 41 | 66 | 42 | — | | |
| | 13 | NW | 30·30 | 30·22 | 59 | 36 | 63 | 37 | — | | |
| | 14 | NE | 30·33 | 30·23 | 65 | 40 | 68 | 41 | — | | |
| | 15 | NE | 30·23 | 30·20 | 69 | 44 | 72 | 45 | — | | |
| | 16 | NE | 30·30 | 30·20 | 65 | 48 | 66 | 50 | 50 | | 1 |
| | 17 | NE | 30·32 | 30·27 | 61 | 48 | 62 | 49 | — | | |
| | 18 | NE | 30·30 | 30·12 | 67 | 43 | 70 | 45 | — | 75 | |
| | 19 | NE | 30·12 | 30·02 | 65 | 40 | 69 | 42 | 47 | 66 | 1 |
| | 20 | N | 30·05 | 30·02 | 65 | 37 | 66 | 38 | — | 72 | |
| | 21 | NE | 30·16 | 30·05 | 66 | 34 | 65 | 35 | — | 66 | |
| | 22 | N | 30·17 | 30·15 | 61 | 48 | 63 | 49 | — | 64 | |
| | 23 | N | 30·16 | 30·05 | 61 | 38 | 62 | 40 | — | 67 | |
| | 24 | NE | 30·10 | 30·06 | 66 | 44 | 63 | 50 | 47 | 68 | |
| | 25 | NE | 30·13 | 30·04 | 71 | 49 | | | — | 69 | |
| | 26 | NE | 30·07 | 30·04 | 69 | 49 | 71 | 50 | — | 70 | |
| | 27 | NE | 30·17 | 30·04 | 68 | 45 | 70 | 46 | 45 | 64 | |
| | 28 | NE | 30·16 | 30·08 | 74 | 40 | 73 | 41 | — | 65 | |
| New M. | 29 | Var. | 30·10 | 29·90 | 77 | 46 | 80 | 46 | — | 61 | |
| | 30 | SW | 29·90 | 29·50 | 81 | 54 | | | 43 | 62 | 31 |
| | | | 30·33 | 29·50 | 81 | 34 | | | 3·47 | | 2·22 |

Notes.—Sixth Mo.—1, 2, 3. Fine. 4, 5. Cloudy. 6. Cloudy: showers. 7. A very heavy shower of rain and hail from three to four o'clock, p. m. 8. Cloudy. 9. Cloudy: rainy night: some hail at half-past nine, a. m. 10, 11. Showery. 12. Cloudy. 13. Cloudy and fine. 14. Cloudy: fine. 15. Ditto. 16, 17. Ditto. 18, 19. Fine. 20, 21, 22. Overcast. 23. Fine: overcast. 24, 25. Overcast. 26. Fine: cloudy: very fine *Cirrus* in the morning. 27. Fine: clear. 28, 29. Fine: *Strati* in the marshes at night. [*Tott.*—4. Gentle rain,

a. m. 12. Slight shower, a. m. 16, 17, 19. Rather windy. 23. Slight shower about noon. 29. Fine and very warm day: hazy, p. m. with thunder, distant to south. 30. Drizzling rain from 6 or 7 p. m. through most of the night.]

## RESULTS.

Winds: N, 3; NE, 16; E, 1; SW, 2; NW, 6; Var. 2.

| | | |
|---|---|---|
| Barometer: | Greatest height | 30·33 in. |
| | Least | 29·50 in. |
| | Mean | 29·998 in. |
| Thermometer: | Greatest height | 81° |
| | Least | 34° |
| | Mean | 55·32° |
| | At Tottenham | 57·25° |
| | For 31 days, the sun in Gemini | 51·661° |
| Evaporation | | 3·47 in. |
| Rain | | 2·22 in. |
| —— at Tottenham | | 1·62 in. |
| Hygrometer (for 13 days): | Dry extreme | 61° |
| | Moist | 75° |
| | Mean | 66° |

[The Tottenham thermometer having been the more exposed to the sun of the two, the mean temp. there, for the summer months, is, as before, in excess; notwithstanding which, the observations retain a comparative value, entitling them to preservation.]

### *Meteorolite.*

A meteorolite fell in this month at *Juvinas*, a place to the NW of Viviers, in the south of France, which was attended with some circumstances deserving notice, as regards the theory of these formations in the higher atmosphere.

The time was about 4 p. m., on the 15th, the sky very clear, save a few clouds to the W. The descent was preceded by a strong detonation, heard both in town and country, and which alarmed every body: it is stated to have begun with a low rumbling noise, continuing three minutes; and in the midst of this, four claps, comparable to the discharge of cannon a little way off. At the same time a meteor was seen by different persons, descending slowly, and leaving a train of smoke behind. Some time after, a report reached Dr. Embri, at Aubenas, that some country people, on the day above mentioned, had seen a great body of fire fall, with a terrible noise, only fifty paces from thence, in a potatoe field, where it raised a great smoke, and threw up the ground about it. They ran away, and

were not very forward to mention what had happened; but the doctor, being an able naturalist, sent a message to the curate to have the ground dug up, promising a reward to the labourers. With some difficulty, on account of their absurd fears of the 'devil' in the ground, these people were prevailed on to dig; and at the depth of five feet they found the aërolite, in the form of a roundish black stone, weighing two hundred and twenty pounds. Their fears now giving place to avarice, the stone was broken, to find what gold it might contain; but missing the prize, they suffered it to be carried away in specimens by the curious.

The description of that received by Dr. Embri, and examined by M. Flaugergues, attaches to it all the characters of an aërolite—a grey substance mixed with black shining grains, and covered outside with a shining coat like the glaze of pottery. The communication to the *Journal de Physique* for the month from which I have translated and abridged the present, concludes with a speculation upon the origin of these stones in the *black spots of the sun*—which proves that philosophers, as well as peasants, can sometimes dream where they should reason.

The facts of a body of fire in the usual form of a meteor, of the train of smoke left behind it, of the detonations amidst the rumbling sound, serve (as in many other well-authenticated instances) to connect the product, with the rest of the phenomena, as an aërolite. It was, undoubtedly, the sudden collapsing, by ignition, of *a cloud of matter previously collected in a calm space of atmosphere*, which gave origin to this formation; and the kindling of this matter, (supposed to resemble the metallic bases of the alkalies for instance,) by meeting with a collection of condensed *water* in its descent, would be no unreasonable addition to the hypothesis.

### Lightning at Edge-hill.

On Wednesday last, [June 20th,] about one o'clock, after a forenoon unusually sultry for the season, several very heavy showers of rain fell here and in the vicinity, accompanied by loud claps of thunder: the darkness of the atmosphere being interrupted and succeeded by uncommonly bright gleams of sunshine. During one of these showers the electric fluid was observed to pass along the south end of Edge-hill. It entered the house of Mrs. Clare, in Edge Vale, where its progress was not less alarming to the inmates, than destructive to the premises; and we have never heard of a more surprising escape, than that of the several individuals dispersed in a house, of which almost every room bears testimony of the ravages of the incontrollable element. It appears probable, from an examination of the apertures which the fluid has made, and the direction in which the bricks, timber, &c. have been forced, that, attracted by the iron railing in front of the house, it entered the wall on one side of the door, where it has shattered the bricks, torn to pieces the wood and brick-work between the door-pillar and the archway of the door; lifted the boards on the top; shook the fan-light to pieces, burning part of the frame, and leaving a black soot on the paint work: thence it passed up through the archway of the door, splitting the bricks and the stone at the bottom of the middle window, the glass of which was shattered to pieces, and the whole frame dislodged and forced into the house. Over the window it forced, in its way to the roof, a large hole, above which the soot appears exactly as if flame had issued from it. Its course appears next to have been towards the chimney: the cans were shattered to pieces; the ridge stones displaced; many bricks, and much cement torn from the wall; and the lead in many places forced up. It probably reached the rooms below by the chimneys. In the lower room, the stucco, plaster, and paper are

in several places broken; and the fluid, as if searching its way out, scorched the gilding of the chimney-glass, and peeled the top ornaments, but did not disturb the polished fire-irons, just below. Six squares of glass were driven out in this room. In the room above, in one corner, stood a bundle of rods to which it made its way, perhaps from the chimney, between the lathing and the wall, as it forced off the plaster, and *shot* a quantity of it against a chest of drawers eleven or twelve feet distant, evidently with amazing force. In this room a young lady was standing. She felt as if her head were pressed by a weight to her shoulder, but received no further injury than that resulting from extreme alarm, at the noise of the fluid in its passage, which resembled cannon, and filled the room (and indeed the whole house) with a sulphureous smoke. On going to the door, she found it fast, as if it were partly locked, probably from its having attracted the fluid. From this room it seems to have passed through the window, and entered another at a right angle from it in the back part of the house, the glass and strong frame of which were broken and forced in. In another front room on the first floor, in which there are no marks whatever, another young lady, who was using a pair of scissors, was struck down, and was deprived, for a short time, of the use of one of her legs: she was seriously hurt, but we are happy to say is recovering. A female servant was driven to one end of the kitchen, and a nail in the door, on which her bonnet hung, was drawn out, and the bonnet torn to pieces. From the kitchen the electric current seems to have escaped by the upper part of the door, where the bricks and lime are loosened. The alarm occasioned to the female inmates, by this terrific visitation, need not be described. The house appeared to be filled with vivid flame and smoke, and they fearfully anticipated its falling on their heads. Two men and a boy, who had taken shelter at the end of the house, were thrown fifteen or twenty feet from the spot where they stood; one of them was taken up insensible, but is now recovering. The breast and back of the boy are severely scorched in red branching stripes, as if produced by the blows of a switch. In the next house, (that of Mr. Mortimer,) in a room, the door and windows of which were closed, the frame of a large pier-glass was perforated as if by a pistol-ball; round which, as from a centre, the gilding was regularly streaked with soot: the glass was not broken. A person was in the room, but was not aware of the circumstance when it happened. The greater part of the ceiling of a room above was also stripped off. No other accident, we believe, has occurred.

Yesterday was unusually sultry for the season: after dark, continued flashes of lightning were seen toward the SW, although no cloud was then visible, and about midnight the town was visited by a violent fall of rain, accompanied by much thunder and lightning, which continued for nearly an hour.

### Hail-storm at Runcorn.

On the same afternoon that the above thunder-storm occurred at Edge-hill, the most remarkable hail-storm visited Runcorn and the neighbourhood that was ever remembered by the oldest inhabitant. The fall of hail was most sudden and tremendous; all the panes of glass in the hot-houses and skylights were broken; at Norton Priory the damage in this way was supposed to amount to £200; the hail-stones measured from three inches to four inches and a half in circumference. A lady, while running for shelter, had her bonnet beaten to tatters; even panes of bull-eyed glass were broken in exposed windows. We were on the spot in about two hours after the storm, and found heaps of the largest hail-stones we ever met with, although at that time they must have been greatly diminished by thaw. The lanes were as plentifully strewed with green leaves as they usually are with faded ones in autumn. Respectable persons assured us that the hail-stones were of the above dimensions; and we have since seen a gentleman who states that some which fell at Farnworth, where considerable damage was done, were four inches in circumference.—*Liverpool Mercury.*

| 1821. | | Wind. | By Clock. | | Temp. | | T. No. 2. | | Evap | Hygr. at 9 a. m. | Rain, &c. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Max. | Min. | Max. | Min. | Max. | Min. | | | |
| 7th mo. July | 1 | W | 29·75 | 29·50 | 74° | 49° | 82° | 49° | — | 72 | 86 |
| | 2 | E | 29·80 | 29·75 | 65 | 48 | | | — | 93 | 28 |
| | 3 | NE | 30·05 | 29·80 | 62 | 36 | 64 | 38 | — | 73 | |
| | 4 | N | 30·15 | 30·05 | 70 | 46 | 70 | 47 | — | 65 | |
| | 5 | NW | 30·15 | 29·90 | 67 | 49 | 72 | 50 | 39 | 62 | |
| | 6 | NW | 29·90 | 29·72 | 65 | 49 | 68 | 50 | — | 70 | 2 |
| | 7 | N | 30·10 | 30·05 | 63 | 40 | 63 | 41 | — | 75 | 7 |
| | 8 | N | 30·10 | 30·00 | 65 | 44 | 66 | 45 | — | 74 | |
| | 9 | NW | 30·10 | 30·04 | 68 | 53 | 73 | 54 | — | 66 | |
| | 10 | NW | 30·12 | 30·08 | 70 | 43 | 75 | 44 | 48 | 67 | |
| | 11 | NW | 30·11 | 30·02 | 71 | 42 | 78 | 43 | — | 67 | |
| | 12 | SE | 30·02 | 29·85 | 75 | 38 | | | — | 67 | |
| | 13 | S | 29·85 | 29·74 | 73 | 49 | | | — | 66 | |
| | 14 | NW | 29·74 | 29·61 | 72 | 50 | 75 | 48 | — | 79 | 9 |
| | 15 | NW | 30·00 | 29·60 | 64 | 46 | 65 | 47 | 43 | 85 | 48 |
| | 16 | NW | 30·23 | 30·00 | 73 | 45 | 75 | 46 | — | 76 | |
| | 17 | Var. | 30·30 | 30·25 | 75 | 43 | | | — | 71 | |
| | 18 | SE | 30·25 | 30·00 | 75 | 47 | 78 | 50 | — | 64 | |
| | 19 | E | 30·00 | 29·76 | 78 | 52 | 80 | 58 | 50 | 79 | |
| | 20 | W | 29·80 | 29·70 | 74 | 57 | 79 | 56 | — | 66 | |
| | 21 | W | 29·70 | 29·49 | 75 | 54 | 76 | 53 | — | 71 | 21 |
| | 22 | SW | 29·55 | 29·48 | 73 | 50 | 76 | 49 | — | 72 | |
| | 23 | W | 29·70 | 29·53 | 68 | 53 | 71 | 53 | 55 | 92 | 30 |
| | 24 | SW | 29·70 | 29·42 | 70 | 57 | 73 | 58 | — | 75 | 21 |
| | 25 | NW | 29 87 | 29·65 | 72 | 53 | 76 | 52 | — | 75 | 4 |
| | 26 | SW | 29·90 | 29·87 | 70 | 54 | 71 | 53 | — | 73 | |
| | 27 | W | 29·98 | 29·85 | 71 | 47 | 73 | 48 | 57 | 75 | |
| | 28 | SE | 30·00 | 29·84 | 70 | 47 | 75 | 46 | — | 74 | |
| New M. | 29 | SW | 29·97 | 29·83 | 69 | 53 | 74 | 51 | — | 70 | 8 |
| | 30 | S | 29·89 | 29·80 | 70 | 58 | 75 | 57 | — | | 18 |
| | 31 | W | 29·91 | 29·87 | 74 | 62 | 78 | 61 | 35 | | |
| | | | 30·30 | 29·42 | 78 | 36 | | | 3·27 | | 2·82 |

Notes.—Seventh Mo. 1. Rainy. 2, 3. Cloudy. 4. Fine: *Cirrus.* 5. Cloudy and fine: *Cirrus:* 6. Cloudy. 7. Cloudy: showers. 8. Cloudy. 9—12. Fine. 13, 14. Cloudy. 15. Rainy. 16, 17. Cloudy. 18. Fine. 19. Fine: some thunder in the evening, and a brilliant meteor. 20—22. Fine. 23. Showery: some hail at 4, p. m. 24, 25. Showery. 26. Cloudy. 27, 28. Fine. 29. Cloudy. 30. Showery. 31. Fine. [*Tott.*—3. Fine ev.: a faint line of *light* in the N, about 10, p. m. supposed an aurora borealis. 12. Veryb eautiful sunset.

13. Hazy: a little rain, evening. 14. Fine day: very fine sunset. 19. Very fine and hot day: heavy clouds in the W, which afterwards passed off to the northward, where was much brilliant lightning, about 9, p. m.: one clap followed, and lightning in other quarters.]

## RESULTS.

Winds: N, 3; NE, 1; E, 2; SE, 3; S, 2; SW, 4; W, 6; NW, 9; Var. 1.

| | | |
|---|---|---|
| Barometer: | Greatest height | 30·30 in. |
| | Least | 29·42 in. |
| | Mean | 29·912 in. |
| Thermometer: | Greatest height | 78° |
| | Least | 36° |
| | Mean | 59·591° |
| | —— at Tottenham | 61·00° |
| | For 31 days, the sun in Cancer | 57·983° |
| Evaporation | | 3·27 in. |
| Rain | | 2·82 in. |
| —— at Tottenham | | 2·54 in. |
| Hygrometer: | Dry extreme | 62° |
| | Moist | 93° |
| | Mean | 72° |

### Climate of Milan.

From its more northerly and inland position, *Milan* has a climate very different from those of Rome and Naples. The greatest cold of 1765 was —3 Reaum. [25·25 F.] on the 17th Feb. and without an entire day's frost it was below freezing on twenty mornings. In 1766, on the 13th and 15th Jan. it was at —6·5 R. [15·75 F.] and it froze in that winter during twenty-eight whole days, and on forty-seven mornings besides. In 1767, on the morning of the 7th Jan. the therm. was at —12 R. [5° F.] on the 11th at —10·5 R. on the 12th at —7·75 R. and on the 13th at —10 R. The fields were covered from the 4th Jan. to the 17th Feb. with *snow*, of which there fell fifteen inches; the greatest depth that had been observed there. The vines in this year suffered much: all the fig-trees were thought to be killed, and a great many of them were cut down. Nevertheless a large proportion of those that remained put forth shoots about the middle of May, and it was hoped they would yield fruit the next season. The quantity of *rain* observed at Milan, by Père Lagrange, was in 1764, 34 in. 7 l.; in 1765, 47·7; and in 1766, 32·2; so that, to judge by these results, it rains much more at Milan than at Paris.—*Voyage d'un Francois en Italie.*

| 1821. | | Wind. | By Clock. | | Temp. | | T. No. 2. | | Evap | Hygr. at 9 a. m. | Rain, &c. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Max. | Min. | Max. | Min. | Max. | Min. | | | |
| 8th mo. Aug. | 1 | SW | 30·08 | 29·85 | 74° | 52° | 76° | 51° | — | 94 | |
| | 2 | SW | 30·07 | 30·07 | 78 | 56 | 82 | 57 | — | 84 | 11 |
| | 3 | E | 30·07 | 30·04 | 76 | 52 | 81 | 53 | — | 84 | |
| | 4 | S | 30·04 | 29·80 | 78 | 50 | | | 45 | 82 | |
| | 5 | S | 29·92 | 29·50 | 84 | 53 | 83 | 55 | — | 74 | |
| | 6 | NW | 29·95 | 29·82 | 76 | 52 | 78 | 52 | — | 83 | |
| | 7 | NW | 29·97 | 29·80 | 71 | 51 | 75 | 49 | — | 77 | 5 |
| | 8 | SW | 29·80 | 29·40 | 66 | 56 | 68 | 59 | 45 | 94 | 36 |
| | 9 | NW | 29·45 | 29·40 | 70 | 52 | 72 | 50 | — | 84 | |
| | 10 | SW | 29·55 | 29·39 | 67 | 52 | 69 | 50 | — | 76 | |
| | 11 | NW | 29·86 | 29·55 | 68 | 45 | 73 | 44 | 47 | 78 | 9 |
| | 12 | NW | 29·93 | 29·87 | 71 | 49 | 75 | 47 | — | 75 | |
| | 13 | SW | 29·92 | 29·60 | 74 | 57 | 76 | 58 | — | 81 | 11 |
| | 14 | W | 29·90 | 29·60 | 68 | 48 | 71 | 49 | — | | 16 |
| | 15 | N | 30·03 | 29·90 | 74 | 60 | 75 | 61 | — | 90 | |
| | 16 | W | 30·12 | 30·00 | 76 | 61 | | | 45 | 90 | |
| | 17 | NW | 30·12 | 29·97 | 75 | 60 | 77 | 60 | — | 87 | |
| | 18 | NW | 30·17 | 30·05 | 73 | 46 | | | — | 92 | |
| | 19 | S | 30·20 | 30·17 | 75 | 45 | 77 | 48 | — | 85 | |
| | 20 | E | 30·20 | 30·15 | 79 | 45 | 81 | 48 | 43 | 79 | |
| | 21 | E | 30·15 | 30·12 | 83 | 51 | 85 | 55 | — | 82 | |
| | 22 | NE | 30·14 | 30·05 | 78 | 53 | 80 | 57 | — | 96 | |
| | 23 | NE | 30·04 | 29·90 | 78 | 54 | 80 | 56 | — | 86 | |
| | 24 | SE | 29·88 | 29·87 | 83 | 56 | 85 | 54 | 51 | 88 | |
| | 25 | NW | 29·97 | 29·87 | 84 | 55 | 84 | 56 | — | 91 | 9 |
| | 26 | NE | 30·12 | 29·97 | 74 | 54 | 79 | 55 | — | 81 | — |
| New M. | 27 | E | 30·12 | 29·90 | 63 | 56 | 65 | 54 | — | 79 | 2 |
| | 28 | E | 29·90 | 29·70 | 60 | 52 | | | — | 80 | 30 |
| | 29 | E | 29·70 | 29·66 | 65 | 56 | 63 | 57 | — | | 77 |
| | 30 | SW | 29·67 | 29·60 | 77 | 59 | 79 | 60 | — | | 3 |
| | 31 | SW | 29·85 | 29·64 | 75 | 60 | 76 | 61 | 43 | | 7 |
| | | | 30·20 | 29·39 | 84 | 45 | | | 3·19 | | 2·16 |

Notes.—Eighth Mo. 1. Fine. 2. Morning, fine: showery in the afternoon. 3, 4, 5, 6. Fine. 7. Cloudy. 8. Rainy. 9, 10. Fine. 11. Morning, fine: rain in the afternoon. [*Tott.*—A brilliant meteor between 8 and 9, p. m.] 12. A few drops of rain. 12, 13. Fine. 14. Rainy. 15—17. Cloudy. 18. The sky this morning was obscured by a haze, through which the sun appeared of a pale blue colour, resembling, in some degree, the flame of sulphur, or of a Bengal light. This phenomenon was observed in several distant places. I have been informed that it was noticed in Essex and Worcestershire, and by many persons about London. I saw it in Sussex, where it lasted from about nine till near noon, and appeared nearly of the colour of watch-spring steel, and was occasionally hid

by *Cirrostrati,* which were floating about. It may be noticed, that the weather, which had been for some time unsettled, cleared up the next day, and continued fine and very warm for about a week. [*Tott.*—In the evening, a beautiful ground fog.] 19—25. Fine. 26, 27. Cloudy. 28. Rainy. 29. Ditto. 30. Fine. 31. Drizzling rain. [*Tott.*—Some flashes of lightning in the evening.]

## RESULTS.

Winds: N, 1; NE, 3; E, 6; SE, 1; S, 3; SW, 7; W, 2; NW, 8.

| | | |
|---|---|---|
| Barometer: | Greatest height | 30·20 in. |
| | Least | 29·39 in. |
| | Mean | 29·888 in. |
| Thermometer: | Greatest height | 84° |
| | Least | 45° |
| | Mean | 63·56° |
| | At Tottenham | 64·77° |
| | For 32 days, the sun in Leo | 62·828° |
| Evaporation | | 3·19 in. |
| Rain | | 2·16 in. |
| —— | at Tottenham | 2·60 in. |
| Hygrometer: | Dry extreme | 74° |
| | Moist | 96° |
| | Mean | 84° |

### BLUE SUN.

*To Dr. Tilloch.*—[*From the Philo. Mag.*]

Sir,—As I was passing along the Curtain Road, in the parish of Shoreditch, on Saturday the 18th of August last, between nine and ten o'clock in the morning, I observed several people looking up as if at something unusual, and on enquiring the cause, I was told the sun appeared blue. I soon saw, to my surprise, the disc of the sun of an *azure* or sky-blue colour. I am not certain that at any one time I saw the whole of the disc of this colour, owing to the clouds which were passing rapidly before it, covering a portion, but I have no doubt that the whole was seen of this colour by others. There can be no question, I think, but that this extraordinary phænomenon was occasioned by some peculiar refractive power in the thinner clouds which were before the sun at the time. The intervals at which I saw this phænomenon were very short, and all the times together I do not believe were many seconds. Independently of this blue colour, the sun that morning attracted the notice of people by its unusual appearance: it has been described as looking like quicksilver, and like varnished silk, and was mistaken for an air balloon.

I have been induced to send you this account, not having met with any one in your magazine, and with a wish that some of those persons who saw any extraordinary appearance in the look of the sun that morning, will communicate their observations to you, stating the *time* and *place* where they observed it.

B. M. Forster.

Walthamstow, Essex, 14th September, 1821.

| 1821. | Wind. | By Clock. | | Temp. | | T. No. 2. | | Evap | Rain, &c. | Hygr. at 9 a. m. |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Max. | Min. | Max. | Min. | Max. | Min. | | | |
| 9th mo. Sept. 1 | NW | 30·03 | 29·85 | 69° | 57° | 71° | 56° | — | 15 | |
| 2 | SW | 30·03 | 29·90 | 76 | 55 | 74 | 53 | — | | |
| 3 | SW | 29·90 | 29·77 | 78 | 62 | 79 | 63 | — | | |
| 4 | SW | 29·80 | 29·70 | 75 | 60 | 77 | 58 | 38 | — | |
| 5 | W | 29·95 | 29·80 | 72 | 57 | | | — | | |
| 6 | SE | 29·92 | 29·60 | 76 | 62 | | | — | — | |
| 7 | SE | 29·62 | 29·55 | 77 | 56 | 78 | 57 | — | 11 | |
| 8 | NW | 29·71 | 29·60 | 69 | 50 | 68 | 46 | 43 | | |
| 9 | Var. | 29·64 | 29·50 | 72 | 52 | 71 | 47 | — | 37 | |
| 10 | W | 30·00 | 29·64 | 70 | 50 | 69 | 49 | — | 11 | |
| 11 | W | 30·00 | 29·60 | 71 | 52 | 72 | 50 | — | | |
| 12 | SW | 29·90 | 29·57 | 71 | 51 | 73 | 51 | — | 13 | |
| 13 | NW | 29·97 | 29·90 | 66 | 51 | 68 | 52 | 47 | 15 | |
| 14 | Var. | 30·30 | 29·93 | 61 | 45 | 61 | 44 | — | 4 | |
| 15 | N | 30·23 | 30·20 | 69 | 54 | 70 | 59 | — | — | |
| 16 | SW | 30·20 | 30·12 | 74 | 59 | 75 | 60 | — | — | |
| 17 | W | 30·10 | 29·85 | 73 | 61 | 76 | 62 | — | | |
| 18 | NW | 29·85 | 29·79 | 72 | 52 | 75 | 51 | — | | |
| 19 | NW | 29·96 | 29·82 | 65 | 44 | 67 | 44 | 47 | | |
| 20 | SW | 29·90 | 29·64 | 65 | 57 | | | — | 11 | |
| 21 | SW | 29·72 | 29·62 | 71 | 47 | 69 | 55 | — | 98 | |
| 22 | NE | 29·71 | 29·62 | 70 | 53 | 71 | 53 | — | 1 | |
| 23 | E | 29·60 | 29·57 | 68 | 45 | 66 | 47 | — | — | |
| 24 | W | 30·00 | 29·60 | 66 | 44 | | | — | | |
| 25 | W | 30·00 | 29·97 | 66 | 54 | 69 | 43 | — | | |
| New M. 26 | SW | 29·98 | 29·82 | 70 | 54 | 73 | 55 | — | 17 | |
| 27 | NW | 29·94 | 29·82 | 63 | 49 | 66 | 47 | — | | |
| 28 | SW | 29·94 | 29·31 | 65 | 52 | 67 | 52 | — | 30 | |
| 29 | W | 29·60 | 29·31 | 58 | 45 | 59 | 43 | 56 | — | |
| 30 | NW | 29·85 | 29·60 | 59 | 50 | 61 | 49 | 14 | 2 | |
| | | 30·30 | 29·31 | 78 | 44 | | | 2·45 | 2·65 | |

Notes.—Ninth Mo. 1. Rainy: a very heavy shower between five and 6, p. m. 2, 3. Cloudy and fine at intervals. 4. Fine: showery. 5. Fine. 6. Fine: frequent lightning during the night, from half-past twelve to five. 7. Fine. [At *Arundel*, Sussex, the tide in the river Arun, it is stated, ebbed and flowed five times in the course of two hours.—*Philo. Mag.*] 8. Fine: cloudy. 9. Fine, with showers: very wet evening. 10. Some thunder about noon: heavy showers: lunar halo. 11. Cloudy: fine. 12. Showery morning: cloudy. 13. Cloudy: rainy night. 14. Drizzling: a *Stratus* on the marshes

at night. 15. Foggy morning: cloudy. 16. Gloomy morning: a shower in the evening. 17. Cloudy: fine. 18, 19. Fine. 20. Cloudy, with small rain. 21. Overcast: began to rain about 8 p. m. and continued till two next morning: a heavy thunder-storm during the night. 22. Cloudy. 23. Gloomy. 24, 25. Overcast. 26. Showery. 27. Cloudy. 28. Fine: rainy night. 29. Cloudy: showers. 30. Cloudy: fine.

## RESULTS.

Winds: N, 1; NE, 1; E 1; SE, 2; SW, 9; W, 7; NW, 7; Var. 2.

| | | |
|---|---|---|
| Barometer: | Greatest height | 30·30 in. |
| | Least | 29·31 in. |
| | Mean | 29·823 in. |
| Thermometer: | Greatest height | 78° |
| | Least | 44° |
| | Mean | 60·95° |
| | At Tottenham | 61·20° |
| | For 31 days, the sun in Vergo | 62·552° |
| Evaporation | | 2·45 in. |
| Rain | | 2·65 in. |
| —— at Tottenham | | 2·60 in. |

### Ancient Meteorolites.

The Greeks celebrate as a prophecy the prediction of Anaxagoras of Clazomene, that within a certain time there should fall a stone from the Sun [prædixisse *quibus diebus* saxum casurum esset a Sole.] He is said to have done this by his knowledge of the *Celestial records*, [cœlestium literarum,] which may mean either astronomy or prophecy. A stone fell, in effect, in the day-time, at the river Aegos in Thrace, [which was referred, it appears, to this prophecy,] and which stone is now exhibited, says Pliny, being of the size of a tumbrel, and of a burnt appearance. There was visible a comet about the same time. [The orginal is, comete quoque *illis noctibus* flagrante.] Pliny treats the *prediction* lightly, and says there is an end of all our knowledge of nature, if the sun be to be considered as made of stone, or as containing any such matter. *But* that stones have very often fallen [crebro] there is, with him, no doubt.

In the gymnasium at Abydos they preserve another to this day, though of more moderate size, for the same reason, and the fall of which is also said to have been predicted by Anaxagoras; and a third at Cassandria, brought thither on the like account, which has received the name of the *Potidæa*. Lastly, Pliny says, I myself saw one which had been taken up a short time before, in Dauphiny [in Vocontiorum agro.] *Pliny:* Nat. Hist. book ii. 59.

| 1821. | | Wind. | By Clock. | | Temp. | | T. No. 2. | | Evap | Rain, &c. | Hygr. at 9 a. m. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Max. | Min. | Max. | Min. | Max. | Min. | | | |
| 10 mo. Oct. | 1 | NW | 30·13 | 29·70 | 65° | 43° | 66° | 45° | — | | |
| | 2 | NW | 30·13 | 29·80 | 61 | 44 | 64 | 46 | — | | |
| | 3 | SW | 29·80 | 29·40 | 68 | 60 | 69 | 61 | — | 26 | |
| | 4 | S | 29·90 | 29·25 | 65 | 43 | 62 | 44 | — | 91 | |
| | 5 | NW | 30·03 | 29·90 | 58 | 43 | 58 | 41 | 47 | | |
| | 6 | W | 30·06 | 30·00 | 65 | 53 | 67 | 51 | — | | |
| | 7 | SW | 30·05 | 29·90 | 67 | 51 | 67 | 50 | — | 5 | |
| | 8 | NW | 30·28 | 29·90 | 63 | 33 | 65 | 34 | — | 12 | |
| | 9 | SW | 30·27 | 30·00 | 60 | 35 | 58 | 33 | — | | |
| | 10 | SE | 30·00 | 29·62 | 61 | 41 | 61 | 39 | 35 | | |
| | 11 | SE | 29·88 | 29·50 | 58 | 46 | 61 | 45 | — | — | |
| | 12 | NW | 30·35 | 29·80 | 58 | 39 | 60 | 41 | — | | |
| | 13 | N | 30·38 | 30·30 | 60 | 33 | 62 | 40 | — | | |
| | 14 | SE | 30·30 | 30·23 | 61 | 46 | 60 | 40 | — | 18 | |
| | 15 | NE | 30·23 | 30·13 | 54 | 32 | 56 | 33 | — | 3 | |
| | 16 | N | 30·17 | 30·10 | 58 | 36 | 56 | 34 | — | | |
| | 17 | NW | 30·10 | 29·86 | 61 | 45 | 58 | 43 | — | | |
| | 18 | SW | 29·86 | 29·81 | 57 | 45 | 62 | 47 | 35 | — | |
| | 19 | NW | 29·81 | 29·00 | 66 | 46 | 56 | 43 | — | | |
| | 20 | SW | 29·10 | 28·78 | 57 | 40 | 57 | 38 | — | 26 | |
| | 21 | NW | 29·11 | 29·06 | 52 | 46 | 52 | 43 | — | 27 | |
| | 22 | SW | 29·30 | 29·10 | 56 | 42 | 56 | 38 | — | 4 | |
| | 23 | SE | 29·45 | 29·10 | 53 | 35 | | | — | 15 | |
| | 24 | SW | 29·95 | 29·45 | 51 | 38 | 53 | 34 | — | 1 | |
| | 25 | SW | 30·04 | 29·94 | 53 | 42 | 53 | 40 | — | 3 | |
| New M. | 26 | SW | 30·17 | 30·05 | 58 | 50 | 58 | 48 | — | | |
| | 27 | SW | 30·27 | 30·16 | 61 | 54 | 61 | 55 | — | 12 | |
| | 28 | SW | 30·29 | 30·20 | 60 | 31 | 62 | 33 | — | — | |
| | 29 | SE | 30·20 | 30·05 | 51 | 34 | | | — | | |
| | 30 | E | 30·06 | 29·84 | 57 | 37 | 52 | 36 | — | | |
| | 31 | NE | 29·93 | 29·82 | 60 | 46 | 60 | 45 | 46 | 8 | |
| | | | 30·38 | 28·78 | 68 | 31 | | | 1·63 | 2·51 | |

Notes.—Tenth Mo. 1. Fine: windy. 2. Fine. 3. Cloudy. 4. Very rainy day: stormy night. 5, 6, 7. Fine. 8. Rainy morning: a *Stratus* on the marshes at night. 9. Foggy morning: fine: lunar corona at night. 10. Fine. 11. Cloudy. 12, 13, 14. Fine. 15. Morning rainy: afternoon fine. 16. Fine: *Stratus* at night. 17. Fine: fog at night. 18, 19. Cloudy. 20. Rainy. 21. Fine day: rainy night. 22. Cloudy: fine. 23. Rainy. 24. Cloudy. 25. Cloudy: foggy. 26. Cloudy. 27. Cloudy. 28. Foggy: drizzling: night clear: a *Stratus* on the marshes. 29. Foggy. 30. Fine: a

*Stratus* at night. 31. Fine. [*Tott.*—1. Cloudy, p. m. *very strong wind.* 2. Remarkably fine: brilliant sunset. 7. Fine morning: cloudy, with a few drops, p. m. 10. Foggy morning. 12. *Stratus.* 16. Hoar frost. 23. A considerable number of swallows and martins seen: very wet, p. m. 24. About 3, p. m. a heavy storm of hail and rain: fine evening—a brilliant meteor passed to the NW.]

## RESULTS.

Winds: N, 2; NE, 2; E, 1; SE, 5; S, 1; SW, 11; W, 1; NW, 8.

| | | |
|---|---|---|
| Barometer: | Greatest height | 30·38 in. |
| | Least | 28·78 in. |
| | Mean | 29·844 in. |
| Thermometer: | Greatest height | 68° |
| | Least | 31° |
| | Mean | 50·71° |
| | At Tottenham | 50·40° |
| | For 30 days, the sun in Libra | 53·016° |
| Evaporation | | 1·63 in. |
| Rain | | 2·51 in. |
| —— at Tottenham | | 3·08 in. |

*Extract of a Letter from a Friend.*

"*Sunderland, Elev. Mo.* 23.—Until the rain, which fell about three weeks ago, we have been much in want of water in this part of the country. We have cisterns that will contain about three thousand gallons, but they being exhausted, we had to buy water for many weeks."

At Gibraltar, as we learn from private letters to the 25th ult., considerable uneasiness had been excited by the want of rain. When the last accounts left, a drought had been experienced since the month of September, and some alarm was felt lest the garrison stores should be exhausted before the weather changed. Some indications of a change had however been observed, and it was confidently expected that the opening sluices of Heaven would soon dispel the fears which the long season of drought, and the prospect of severe privation, had produced.

FROM LLOYD'S LIST.

From Mr. Pritchard, master of the Juno, arrived at Brighton, from Jamaica:—"Sailed from St. Ann's on the 30th Aug.; on the 30th of Sept. was in sight of Cape Maze; at twelve at night it began to blow hard from the NNE; at 3, a. m. the weather became worse, and shortly afterwards a hurricane commenced and continued with unabated fury for twelve hours, with a dreadfully heavy sea, which broke over the ship, and kept her decks constantly under water; on the 5th, at 2, p. m. it blew again hard from the NE, and at six the wind and sea increased; at ten the gale became so violent, and the sea ran so high, that it broke twice over the stern; on the 9th, off the Isle of Pines, encountered another heavy gale, from SSW, and did not get round Cape Antonio until the 12th."

PAPERS.

| 1821. | | Wind. | By Clock. | | Temp. | | T. No. 2. | | Evap | Rain, &c. | Hygr. at 9 a. m. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Max. | Min. | Max. | Min. | Max. | Min. | | | |
| 11th mo. Nov. | 1 | SW | 29·86 | 29·81 | 60° | 55° | 62° | 57° | — | — | |
| | 2 | W | 29·84 | 29·70 | 63 | 55 | 64 | 53 | — | 13 | |
| | 3 | W | 29·70 | 29·20 | 57 | 40 | 58 | 40 | — | 39 | |
| | 4 | W | 30·10 | 29·20 | 46 | 28 | 47 | 29 | — | 10 | |
| | 5 | W | 30·30 | 30·10 | 54 | 28 | 46 | 28 | — | | |
| | 6 | SW | 30·31 | 30·25 | 41 | 30 | 49 | 32 | — | | |
| | 7 | E | 30·25 | 30·16 | 48 | 39 | 48 | 41 | — | | |
| | 8 | E | 30·16 | 30·10 | 48 | 36 | 48 | 38 | 57 | | |
| | 9 | E | 30·10 | 30·07 | 46 | 38 | | | — | | |
| | 10 | SE | 30·10 | 29·85 | 58 | 44 | 53 | 45 | — | | |
| | 11 | S | 29·85 | 29·65 | 55 | 45 | 57 | 43 | — | 75 | |
| | 12 | W | 29·98 | 29·80 | 56 | 35 | 58 | 37 | — | 1 | |
| | 13 | E | 29·92 | 29·60 | 55 | 40 | 60 | 45 | — | — | |
| | 14 | SW | 29·24 | 29·15 | 58 | 52 | 61 | 43 | — | 12 | |
| | 15 | SW | 29·65 | 29·30 | 61 | 51 | | | — | 2 | |
| | 16 | SW | 29·55 | 29·26 | 56 | 50 | 56 | 49 | — | 55 | |
| | 17 | SW | 29·75 | 29·55 | 54 | 47 | 54 | 48 | — | 1·07 | |
| | 18 | N | 30·11 | 29·75 | 50 | 41 | 50 | 38 | 38 | | |
| | 19 | SW | 30·00 | 29·85 | 52 | 42 | 52 | 40 | — | 28 | |
| | 20 | SW | 29·93 | 29·50 | 52 | 45 | 51 | 44 | — | 7 | |
| | 21 | NW | 29·85 | 29·40 | 50 | 38 | 46 | 33 | — | 9 | |
| | 22 | SW | 29·70 | 29·35 | 55 | 45 | 56 | 44 | — | 3 | |
| | 23 | SW | 30·00 | 29·70 | 54 | 35 | 54 | 31 | — | 15 | |
| New M. | 24 | SW | 29·70 | 29·55 | 52 | 41 | 51 | 39 | — | — | |
| | 25 | NW | 29·73 | 29·25 | 55 | 46 | 54 | 42 | — | 25 | |
| | 26 | SW | 29·40 | 29·05 | 56 | 42 | 55 | 40 | — | 32 | |
| | 27 | NW | 29·82 | 29·40 | 44 | 30 | 44 | 28 | — | | |
| | 28 | SW | 29·75 | 29·34 | 55 | 43 | | | — | 4 | |
| | 29 | SW | 29·80 | 29·38 | 54 | 40 | | | — | 14 | |
| | 30 | NW | 29·83 | 29·23 | 55 | 42 | 54 | 39 | 56 | 16 | |
| | | | 30·31 | 29·15 | 63 | 28 | | | 1·51 | 4·67 | |

Notes.—Eleventh Mo. 1, 2. Cloudy. 3. Rainy: very stormy night: the wind blowing quite a gale. 4. Stormy. 5—8. Fine. 6, 7. Lunar halo and corona. 9. Fine: *Cirrus:* lunar halo. 10. Fine: cloudy. 11. Rainy. 12. Fine. 13. Cloudy. 14. Cloudy. 15. Cloudy. 16. Rainy: squally. 17. Cloudy: rainy night. 18. Fine. 19. Rainy morning: fine afternoon, 20. Cloudy. All the marshes in the neighbourhood flooded to a considerable depth from the rains of the last few days. 21. Cloudy. *Cirrocumulus* and *Cirrostratus* in the afternoon. 22. Rainy morning. 23. Cloudy: drizzly. 24. Rainy. 25. Fine: stormy night. 26. Fine morning:

rainy afternoon. 27. Fine. 28. Drizzling: very cold wind. 29. Fine. 30. Fine day: stormy night.

*** *Daniell's Hygrometer* indicated a depression of 15° at noon on the 7th; on the 8th, 9°; on the 9th, 10°; and on the 10th, 5°. This gradual approach to the point of saturation, during a succession of fine days, followed, as will be seen, by wet weather, deserves notice. Observations with this instrument will be given occasionally in future.

## RESULTS.

Winds: N, 1; E, 4; SE, 1; S, 1; SW, 14; W, 5; NW, 4.

| | | |
|---|---|---|
| Barometer: | Greatest height | 30·31 in. |
| | Least | 29·15 in. |
| | Mean | 29·73 in. |
| Thermometer: | Greatest height | 63° |
| | Least | 28° |
| | Mean | 47·38° |
| | At Tottenham | 47·166° |
| | For 30 days, the sun in Scorpio | 47·833° |
| Evaporation | | 1·51 in. |
| Rain | | 4·67 in. |
| —— | at Tottenham | 5·15 in. |

*Edinburgh, Nov.* 5.—November has set in with all the austerity of winter: on Saturday it was very squally all day; in the evening it blew a stiff gale from the north, accompanied with heavy rain. Yesterday morning a good deal of snow fell—the Pentlands and the hills of Fife were covered with snow; in the evening the wind changed to west, began to freeze, and during the night the thermometer was at 30°.

*Liverpool, Dec.* 1.—Yesterday, the 30th of November, was remarkably fine from early in the morning till towards four in the afternoon, when a cold and sharp wind from the west began to blow fresh, and continued to increase in violence till towards midnight, when it became a perfect hurricane. [Details follow of damage to the shipping in the river.] During the storm, a windmill, situate near the signal-house, on the Cheshire side, which could not be stopped by any effort of the miller, took fire, and burned down. Many new buildings, nearly finished, are levelled with the ground; scarce a roof in the town has escaped damage; and the falling slates, tiles, and bricks, during the tempest, rendered the streets dangerous for passengers all the night.

A most violent hurricane blew here *(Manchester)* on Friday night, the 30th ult. from the westward, which did considerable damage by blowing down chimnies, unroofing houses, and tearing off the lead from buildings, in very many instances. We regret to add, that several persons were severely hurt by the falling bricks, slates, &c. We have heard of several lives having been lost by the fall of factory chimnies, in various parts of this district. The effects of the above storm, or rather hurricane, presented a singular phenomenon on Saturday. Windows which had a western aspect had the appearance of being extremely

dirty; and on examination, the matter adhering proved to be *salt*, often observed after a strong gale from the seaward, at Blackpool, Southport, &c. This fact proves the violence of the wind, which had brought so far (nearly forty miles) inland the spray of the sea, which it had swept from its perturbed waves.

The last night (Friday the 30th ult.) has, in this city *(York)* been the most boisterous and stormy of any that has been remembered here for several years. The wind has blown ever since about midnight with the violence of a hurricane, and must inevitably have caused much damage. Some families in York were so much alarmed as to sit up all the night.

On Friday night and Saturday morning, *Leeds* was visited by a tremendous gale of wind, accompanied with hail and rain, which blew incessantly, for several hours, from north-west. On Saturday afternoon, about four o'clock, there was a violent hail-storm; the hail-stones were uncommonly large.

During the prevalence of one of those heavy gales which marked nearly the whole of last week, a windmill at *Appleton* was blown down; two persons were in the mill at the time, who both escaped unhurt.

Extract of a letter from *Aberdeen*, dated Nov. 10;—"Sunday last, [4th,] we had a hard gale from ENE. The sea, almost immediately on the commencement of the gale, ran tremendously high, so as to astonish the oldest seamen. It commenced here very early in the morning, but was some hours later in its progress southward, where it came on with sleet and snow, blowing most furiously from ESE, and shifting to ENE, in which point it continued nearly fourteen hours.

Friday morning [16th] *Windsor* and the neighbourhood was visited by one of the heaviest storms of rain ever remembered by the oldest inhabitant. The watery torrents descended with scarcely any abatement from nine till eleven o'clock. All the low grounds are inundated. The land-flood from the forest came so rapidly into the Sheet-street road and the adjoining meadows, that horses and other animals were with difficulty saved, and any sheep that may have been out, must have been washed away. The storm extended many miles round the neighbourhood.

The continued rain on Saturday night [17th] occasioned considerable damage on the banks of the Thames, near the metropolis. The cellars in Tothill-fields and Lambeth, were inundated to the depth of two or three feet.

*Portsmouth*, *Nov.* 17.—Last night we had a most violent storm of wind, rain, and hail, accompanied with thunder, and very vivid flashes of lightning, for about two hours.

*Whitehaven*, *Dec.* 1.—We have experienced for the last ten days a succession of westerly gales, but without doing much injury to the shipping, till, at 5 p. m. yesterday, it blew the heaviest gale we have experienced for many years, which continued for twelve hours; most of the ships broke their moorings at the piers, and many have been damaged by running foul of each other.

Extract of a letter from Lloyd's Agent at *Elsinore*, dated the 4th Dec.:—"The same blowing weather still continues, with the wind at WSW and WNW, which prevents a number of vessels from Petersburgh, Riga, and other ports in the Baltic, from arriving."

Extract of a letter from Lloyd's Agent at *Dantzic*, dated the 30th ult.:—"Since the 27th we have had very strong westerly gales."—PAPERS.

*Cylinders of rolled Snow.*

In January 1809, the Rev. D. A. Clark observed in Morris County, New Jersey, a regular formation of cylinders of snow. When a deep snow was on the ground, a shower of rain fell, was congealed on the surface, and covered by another fall of snow to the depth of three-quarters of an inch, the cold mean time increasing, and the wind blowing a gale. "Nature (says Mr. Clark) now began her sport. Parts of the snow would move upon the icy crust, from twelve to twenty inches, and then begin to roll, making a track upon the ice shaped like an isosceles triangle. The balls enlarged according to circumstances, and [where] aided by the declivity of the ground, the rolls were of the size of a barrel, and some even larger. Thus the whole landscape was covered with snow-balls, differing in size from that of a lady's muff, to the diameter of two and a half or three feet, hollow at each end to almost the very centre, and all as true as so many logs shaped in a lathe!"

Mr. E. Hitchcock observed at Driffield, *Massachusetts*, in 1812 or 1813, cylinders like those above described, but not above six or eight inches diameter.—*Edin. Philo. Journal*, from the *American Journal of Science*.

*Singular form of Hail.*

About ten years before the observation above cited, Mr. Clark saw, in the heat of summer, hailstones about one-fourth or three-eighths of an inch thick, and of sufficient diameter to hide a shilling. Almost every one of them was perforated in the middle, as if they had been held between the fingers till thus melted. When the perforation was not complete, there was in every case a tendency to it. —*Idem*.

| 1821. | Wind. | By Clock. | | Temp. | | T. No. 2. | | Evap | Rain, &c. | Hygr. at 9 a. m. |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Max. | Min. | Max. | Min. | Max. | Min. | | | |
| 12th mo. Dec. 1 | W | 29·80 | 29·50 | 47° | 39° | 46° | 36° | — | 3 | |
| 2 | W | 30·00 | 29·70 | 51 | 42 | 50 | 32 | — | — | |
| 3 | SW | 29·85 | 29·50 | 54 | 33 | 53 | 31 | — | 80 | |
| 4 | NW | 29·85 | 29·65 | 48 | 39 | | | — | 15 | |
| 5 | W | 30·12 | 29·68 | 51 | 32 | | | — | 9 | |
| 6 | NW | 30·25 | 30·00 | 41 | 32 | 41 | 29 | — | | |
| 7 | SE | 30·00 | 29·70 | 49 | 40 | 50 | 40 | — | — | |
| 8 | W | 30·05 | 29·93 | 52 | 46 | 52 | 44 | — | — | |
| 9 | SW | 30·04 | 29·98 | 52 | 50 | 52 | 49 | — | 2 | |
| 10 | S | 30·25 | 29·86 | 55 | 35 | 52 | 34 | — | 3 | |
| 11 | NW | 30·32 | 30·25 | 44 | 27 | 45 | 26 | — | | |
| 12 | SE | 30·15 | 29·82 | 51 | 42 | 47 | 40 | — | | |
| 13 | SE | 29·95 | 29·83 | 52 | 38 | 52 | 30 | 50 | — | |
| 14 | S | 29·90 | 29·88 | 51 | 41 | 50 | 38 | — | 3 | |
| 15 | SE | 29·86 | 29·65 | 51 | 42 | 50 | 44 | — | | |
| 16 | SW | 29·65 | 29·39 | 54 | 48 | 53 | 47 | — | — | |
| 17 | SW | 29·40 | 28·90 | 52 | 42 | 51 | 41 | — | 48 | |
| 18 | SW | 29·02 | 28·98 | 52 | 42 | | | — | 11 | |
| 19 | SW | 29·27 | 28·98 | 50 | 34 | 51 | 32 | — | 6 | |
| 20 | SW | 29·30 | 28·49 | 49 | 38 | 47 | 36 | — | 31 | |
| 21 | NW | 29·35 | 28·49 | 48 | 39 | 49 | 35 | — | 3 | |
| 22 | SW | 29·35 | 28·59 | 50 | 41 | 50 | 35 | — | 26 | |
| 23 | W | 29·17 | 28·75 | 46 | 39 | 47 | 35 | 56 | 8 | |
| New M. 24 | S | 28·85 | 27·80 | 48 | 38 | 46 | 37 | — | 78 | |
| 25 | NW | 28·45 | 27·80 | 41 | 28 | 42 | 26 | — | | |
| 26 | E | 28·86 | 28·25 | 44 | 30 | 45 | 35 | — | 35 | |
| 27 | SW | 28·97 | 28·50 | 46 | 39 | 44 | 38 | — | 35 | |
| 28 | SE | 28·50 | 28·05 | 47 | 36 | 46 | 37 | — | 68 | |
| 29 | NW | 28·95 | 28·15 | 46 | 41 | 45 | 41 | — | 18 | |
| 30 | SE | 29·80 | 28·95 | 46 | 34 | 44 | 32 | — | 3 | |
| 31 | NW | 30·00 | 29·70 | 41 | 32 | 42 | 30 | 25 | | |
| | | 30·32 | 27·80 | 55 | 27 | | | 1·31 | 4·85 | |

NOTES.—Twelfth Mo. 1. Rainy. 2. Cloudy. 3. Rainy. 4. Fine morning: rainy night. 5. Showers: some thunder in the afternoon. 6. Fine: cold. 7. Fine morning: drizzly afternoon. 8, 9, 10. Fine. 11, 12. Cloudy. 13, 14, 15. Fine. 16. Fine day: rainy night. 17. Fine morning: rain in the afternoon: night squally. 18, 19. Fine. 20. Heavy showers at intervals during the day: night stormy, with lightning. 21. Small rain in the morning: afternoon fine. 22, 23. Fine. 24. Rainy. 25. Very fine. 26. Rainy. 27. Rainy: hail about noon. 28. Rainy: some sleet about half-past 1 p. m.

Jan.
Feb.
Mar.
Apr.
May.
Jun.
Jul.
Aug.
Sep.
Oct.
Nov.
Dec.
Calcutta
Capetown
Benares
Rio
340
330
Lines
Paris
Subtropical barometer its opposite Solar Curves
T
40°
30°
50°
40°
36°
Feb. 24
1822 Jan. 5.
The Medium daily Temperature is represented by the dotted Curves, which, as to their place in the Scale, are arbitrary.
In
31
30
29
28
16 Jan 1821
27 Nov. 1821
Extremes of the Barometer in 1821 at Tottenham

## RESULTS.

Winds: E, 1; SE, 6; S, 3; SW, 9; W, 5; NW, 7.

| | | |
|---|---|---|
| Barometer: | Greatest height | 30·32 in. |
| | Least | 27·80 in. |
| | Mean | 29·385 in. |
| Thermometer: | Greatest height | 55° |
| | Least | 27° |
| | Mean | 43·35° |
| | At Tottenham | 42·11° |
| | For 30 days, the sun in Sagittarius | 45·316° |
| Evaporation | | 1·31 in. |
| Rain | | 4·85 in. |
| —— | at Tottenham | 4·95 in. |

*** This month is remarkable for a depression of the barometer, which, for London at least, or its vicinity, is nearly without a precedent on record. The lowest observation here given, 27·83 in. was obtained at Tottenham from a portable barometer of Sir H. Englefield's construction, about 5 a.m. on the 25th. The barometer at the Laboratory was not observed when at its lowest point. The indexes of many *wheel* barometers retrograded on this occasion into the *set fair* part of the scale, and were found in the vicinity of thirty-one inches, a circumstance which occasioned some curious remarks on the supposed inconsistency of the weather-glass with the weather. We had no storm of wind of any consequence after this great depression, which, it should be remarked, had been coming on for about two weeks. It appears by the papers, that a like state of the barometer was extensively observed at the same time on the Continent, and that very tempestuous weather attended it, far to the south of our island.

[In the First Month, 1822, I gave an account to the Royal Society of the circumstances of this depression, comparing it with former ones, in a paper which the reader will find in the *Philo. Trans.* vol. cxii. p. 113. I shall annex to the present Table a diagram of the great elevation of the barometer, in the second month of this year, contrasted with the depression now under notice. I received on this occasion a letter from my friend *Thomas Squire* of Epping, of which the following are extracts:

"The fall of the barometer has been as wonderful as the fall of rain. On the 24th, at midnight, my barometer was 27·76 in.: it continued nearly stationary till about six next morning, when it was 27·73 in. This was its minimum altitude: shortly after it began to rise—for at 8 a.m. it was 27·80, at nine 27·87, at ten 27·92, at eleven 27·97, at twelve 28·02, at one p.m. 28·04, at two 28·10, at three 28·13, at six 28·18 in.

"On the 28th, at 6 p.m. it was again as low as 27·97, at seven

27·94, at ten 27·92: it was again stationary during the night. On the 29th, at 8 a. m. it was at 27·93 in. only. A few observations *previous to the great depression* I shall give as below. Dec. 24th. barometer at 4 p. m. 28·27, at five 28·21, at six 28·11, at seven 28·03, at eight 27·94, at nine 27·86, at ten 27·82, at eleven 27·78 in. The wind I believe was NE, from 6 p. m. to midnight. When the wind veered to the westward, the barometer rose; but as soon as it got into the E, the barometer experienced another depression, and again rose when the wind blew from the westward—and thus it continued fluctuating for several days.

"We have seen nothing of the effects of the late heavy rains, to what some have in low situations. I am of opinion the floods have not been so disastrous in the fens at this time, as they are sometimes after a frost and heavy snow.

"I have seen several *parhelia* (and some very bright ones) at different times. I have generally observed them to be most frequent in the spring, in *Cirrostratus* clouds, and mostly seen when I have been walking early in the morning. 1821, March 16, at 7 a. m. a very bright parhelion; and again about the same hour, on the 24th, a very bright one. These phenomena generally precede cold sleety weather."—T. S. *Epping, Jan.* 7, 1822.

On comparing the mean result of a number of observations, made in different parts of the scale, on Thomas Squire's barometer, with the corresponding mean height obtained from my clock, I find the difference to be ·417 in. Consequently, supposing no great error in the adjustment of either instrument, the two must have been unequally affected on this occasion, and the loss of weight or density in the atmosphere must have been less in proportion in high than in low situations—a thing certainly possible, and worthy of further consideration and enquiry. For my friend Squire's barometer, had it held a due proportion in depression with the Englefield's barometer in my hands, should have indicated only about 27·41 at 6 a. m. on the 25th, instead of 27·73 in. as given above. The *rarefaction* (or proportionate loss of density) *therefore, from some peculiar cause, (probably the presence of a greater proportion of vapour,) was greatest in the lowest part of the atmosphere.*—L. H.]

*Account of a remarkable Electrical Whirlwind, or Spout, in Hampshire.*

The following particulars are taken from different communications to the Papers on the subject. On the 27th Dec. there was, in the neighbourhood of *Alresford, Alton,* &c. a smart thunder-storm, attended with torrents of hail and rain, and at intervals with gusts of wind. At half-past two there was observed, at the former place, an

appearance resembling a funnel, the large end being next the clouds, and tapering gradually to the earth. It came from the SE, 'emerging from a heavy cloud,' moved with considerable velocity, and was much curved in the direction of the wind, then at SW. It was visible from thence for more than two minutes, during which time it was distinct and well defined, being of a darker hue than the cloud to which it was attached: it seemed to be let down towards the earth and drawn up again at intervals, until its final disappearance, which was gradual—from the bottom upwards. Its course, by the havoc it made, was found to be serpentine, chiefly in the direction of the London Road. Throughout its whole progress, for a distance of two miles, its effects were confined to a space of from six feet to twenty yards in breadth. One person described it as "a body of thick white mist tapering from the clouds, and near the earth, about the size of a woolpack." It appeared to him to touch the earth and bound from it repeatedly, the whole was over in a few seconds. Another, who was nearer, said he felt as if pails of water were thrown on him, such was the effect of the strong *electric aura* attending it, *though there was no discharge of water at the time from the cloud.* Nothing seems to have been able to resist the fury of this *meteor*, as we may, perhaps, very well call it. An oak-tree of a foot and a half diameter was broken short off, and carried upwards of forty yards; several strong fences and flights of rails were removed *en masse*, to a distance of many feet; but its principal effects were perceived upon a farm-house and some out-buildings in the village of *Ropley*. It considerably injured the house, threw down two barns, so completely that no part stood more than four feet from the ground, and also a brick wall. Large elm-trees were uprooted, a fine walnut-tree broken in half, and gates, stiles, and even thick, firm gate-posts torn up. In many places the fences and hedge-rows were as completely cleared away as if it had been done with a bill. The trees and ruins blocked up the coach-road, and it required some hours' labour to clear them away.

| 1822. | | Wind. | By Clock. | | Temp. | | Med. | Evap | Rain, &c. | Dan.'s Hygr. at 9 a. m. |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Max. | Min. | Max. | Min. | | | | |
| 1 mo. Jan. | 1 | SE | 29·73 | 29·32 | 44° | 32° | 38· | — | 11 | |
| | 2 | NW | 29·72 | 29·50 | 41 | 32 | 36·5 | — | | |
| | 3 | SW | 29·60 | 28·98 | 38 | 33 | 35·5 | — | 24 | |
| | 4 | NE | 29·80 | 29·15 | 39 | 33 | 36·– | — | | |
| | 5 | N | 30·00 | 29·80 | 38 | 31 | 34·5 | — | | |
| | 6 | N | 30·05 | 29·85 | 38 | 28 | 33· | — | | |
| | 7 | NW | 30·10 | 29·90 | 37 | 30 | 33·5 | — | — | |
| | 8 | N | 30·13 | 30·00 | 41 | 35 | 38· | — | | |
| | 9 | N | 30·20 | 30·10 | 45 | 30 | 37·5 | — | 2 | |
| | 10 | NW | 30·20 | 30·09 | 45 | 34 | 39·5 | — | | |
| | 11 | NW | 30·30 | 30·20 | 47 | 39 | 43· | — | | |
| | 12 | W | 30·30 | 30·25 | 47 | 41 | 44· | — | | |
| | 13 | W | 30·25 | 30·20 | 48 | 39 | 43·5 | — | | |
| | 14 | NW | 30·25 | 30·00 | 47 | 38 | 42·5 | 50 | | |
| | 15 | NW | 30·20 | 30·12 | 41 | 29 | 35· | — | | |
| | 16 | NW | 30·12 | 30·05 | 37 | 24 | 30·5 | — | | |
| | 17 | SW | 30·30 | 30·10 | 44 | 30 | 37· | — | — | |
| | 18 | W | 30·35 | 30·30 | 43 | 33 | 38· | — | | |
| | 19 | W | 30·34 | 30·10 | 47 | 41 | 44· | — | | |
| | 20 | W | 30·30 | 30·10 | 49 | 36 | 42·5 | — | | |
| | 21 | NW | 30·44 | 30·30 | 48 | 39 | 43·5 | — | | |
| | 22 | W | 30·43 | 30·25 | 46 | 39 | 42·5 | — | | |
| New M. | 23 | SW | 30·25 | 29·82 | 46 | 41 | 43·5 | — | — | |
| | 24 | SW | 30·00 | 29·79 | 48 | 41 | 44·5 | 49 | 23 | |
| | 25 | NW | 30·09 | 29·94 | 48 | 39 | 43·5 | — | 2 | |
| | 26 | NW | 30·30 | 30·00 | 47 | 26 | 36·5 | — | | |
| | 27 | NW | 30·30 | 30·10 | 44 | 32 | 38· | — | | |
| | 28 | W | 30·16 | 30·10 | 51 | 32 | 41·5 | — | | |
| | 29 | W | 30·32 | 30·15 | 48 | 26 | 37· | — | | |
| | 30 | NW | 30·34 | 30·30 | 47 | 28 | 37·5 | — | | |
| | 31 | SW | 30·28 | 30·10 | 54 | 36 | 45·0 | 30 | | |
| | | | 30·44 | 28·98 | 54 | 24 | | 1·29 | 0·62 | |

Notes.—First Month.—1. Rainy morning: fine p. m. 2. Fine: white frost in the morning. 3. Overcast. 4. Cloudy: fine night. 5. Fine. 6. Fine. 7. A little snow in the forenoon. 8, 9. Fine. 10. Foggy: calm. 11. Ditto. 12. Foggy morning. 13. Fine. 14. Very fine day. 15. Morning fine and clear: day fine. 16. Very fine day. 17. Snowy morning: cloudy day. 18. Morning foggy: day fine. 19. Cloudy. 20. Fine. 21. Very fine. 22. Foggy morning: fine day. 23, 24. Drizzly. 25. Cloudy. 26. Cloudy.

27, 28. Very fine. 29. Foggy morning: cloudy. 30. Fine. 31. Fine. [*Tott.*—1. Slight hoar frost: rain from nine till twelve: very fine afterwards. 3. Solar halo: rain, evening and in the night. 4. Cloudy with some rain: very windy. 5. Wind in the night: a hasty shower at sunset. 6. Cloudy: a little rain a. m. 7. A little rain. 9—12. Cloudy. 14. Windy part of the day: the night very windy. 17. Snow. 18. Clouds beautifully coloured at sunset. 19, 20. Cloudy. 29, 30. Hoar frost.]

## RESULTS.

Winds: N, 4; NE, 1; SE, 1; SW, 5; W, 8; NW, 12.

| | | |
|---|---|---|
| Barometer: | Greatest height | 30·44 in. |
| | Least | 28·98 in. |
| | Mean | 30·066 in. |
| Thermometer: | Greatest height | 54° |
| | Least | 24° |
| | Mean | 39·19° |
| | For 30 days, the sun in Capricorn | 38·950° |
| Evaporation | | 1·29 in. |
| Rain | | 0·62 in. |
| Rain at Tottenham | | 0·70 in. |

The mean Temp. at Tottenham for 23 days was 37·54°; but the deficient observations being supplied from Stratford, brought it to 38·43°.

### Electrical Phenomenon,

*Attending a Snow-storm at Freyberg.*

On the 25th Jan. 1822, the barometer went down rapidly to 26 in. 2,1 lines, the thermom. being some degrees above freezing, the wind strong from SW and W, with small rain at intervals. At half-past 9 p. m. came on a sudden storm from NE: the first drops that fell were *rain*, then *sleet*, and finally a thick snow: the barometer rose at once 1,3 lines, and the therm. went down to —0,7 [Reaum.] Opening the window, says Professor Lampadius, I was sensible of a strong *electrical smell*, and I mentioned to the persons about me, that we should perhaps have thunder and lightning. This however did not happen: but on exposing from the window a Bennett's electrometer, the gold leaves diverged with such force that one of them was torn off, and remained sticking to the tinfoil at the side. At *Leipsic* there was a thunder-storm.

Some days after, the following observations were communicated to me. M. de Thielaw, of Brunswick, a very well-informed young man, studying in our university, in returning at the time from the high furnaces at Halsbruck near Freyberg, observed *a strong phosphorescence* at the extremities of the branches of all the trees on his route. It continued when he touched the tree, but ceased for the time when he made a branch touch the ground by bending it downward. The light was of a bluish white colour, and very distinct.

On the other side of our town, three miners who were on the road told me that the sleet at the beginning of the storm appeared luminous as it fell; but being forced to keep their eyes shut against a strong wind in their faces, they made no further observation.—*Bibl. Brittannique,* quoting *Gilbert's Annals.* Janvier 1823. The editor goes on to cite two other examples of the like phenomena, viz. On the night of the 17th Jan. 1817, in many places situate on the east coast of the United States of North America, there occurred thunder-storms with hail and snow: the lightning was observed to be frequent, with but a small proportion of thunder; but a luminous appearance was then remarked by persons who happened to be out of doors. Their *hats,* their *gloves,* their *ears,* the *manes* and *tails* of their *horses,* the bushes along the road-side, the trunks of trees, &c. were all surrounded with a lively vacillating flame, in different shapes; which produced at the same time *a slight noise,* like that of water simmering over a fire. [This noise I believe to have been produced on points much nearer to the organs of hearing. See the case of M. Bourrit and his companions, on Mount Breven, related by *Saussure.*] This whole exhibition resembled perfectly the electrical light produced, in the dark, around metallic bodies charged as conductors.

On the 20th Feb. 1817, James Braid, surgeon at Leadhills, Scotland, returning on horseback from the country, about 9 p. m. in a shower *followed by a heavy snow,* found his horse's ears become suddenly luminous, and the brim of his hat appearing as if on fire. [The *noise* was most likely in the former case on some projection or *button* of the clothing on the head and shoulders.] He remarked that, before the rain came on, an innumerable swarm of little sparks flew in all directions about the horse's ears and his hat-brim. [This latter description is probably incorrect—it must have been the luminous appearance of the ends of hairs and fibres, in quick motion. I have to remark, in conclusion, that in the first and third of these instances there was *a metalliferous stratum* beneath the observer. What is the nature of the sub-soil, in the tract mentioned in the second, I am not informed.—L. H.]

Compare with the foregoing what *Pliny* says on the same subject, in *Nat. Hist.* xxxvi. Exsistunt stellæ et in mari terrisque. Vidi nocturnis

militum vigiliis inhærere pilis, pro vallo fulgorum effigie eâ. Et antennis navigantium aliisque navium partibus ceu vocali quodam sono insistunt, ut volucres sedem ex sede mutantes. He could trace the ramparts when the soldiers were on duty by night, by the electric light which gleamed on the spear points; and at sea, stars of this kind sat upon the yards and other parts of the vessel, emitting as it were a vocal sound, and shifting their place like birds. The electricity must have been very strong, to have made a sound audible on the deck. The single light on a ship they called *Helena,* (whence the term 'feu de St. Elme,') and thought it dangerous, the ships being then often struck. Two at once, *Castor* and *Pollux,* they deemed a good prognostic. The former might indicate a cloud highly charged, right overhead—the latter only a state of the air about the ship similar to that described in the preceding article. The one was probably at the mast-head, the others at the ends of the *antennæ,* or main yards. But he proceeds: Hominum quoque capita vespertinis horis, magno præsagio circumfulgent:—the very appearance of *light on the hair* which we have just had described. Omnia incertâ ratione (concludes this great philosopher) et in naturæ majestate abdita! Yet it is what every shoolboy now learns at a lecture.

| 1822. | | Wind. | By Clock. | | Temp. | | Med. | Evap | Rain, &c. | Dan.'s Hygr. at noon. |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Max. | Min. | Max. | Min. | | | | |
| 2 mo. Feb. | 1 | SW | 30·10 | 29·70 | 48° | 35° | 41·5 | — | | 3 |
| | 2 | SW | 29·70 | 29·15 | 54 | 44 | 47· | — | 27 | 3 |
| | 3 | SW | 29·72 | 29·40 | 47 | 31 | 39· | — | | |
| | 4 | SW | 29·70 | 29·13 | 49 | 36 | 42·5 | — | 12 | |
| | 5 | SW | 30·15 | 29·13 | 52 | 30 | 41· | — | 1 | 6 |
| | 6 | W | 30·15 | 29·75 | 45 | 32 | 38·5 | — | | 20 |
| | 7 | SW | 29·80 | 29·65 | 51 | 43 | 47· | — | 20 | 4 |
| | 8 | SW | 29·90 | 29·77 | 50 | 42 | 46· | — | | 11 |
| | 9 | SW | 29·82 | 29·73 | 53 | 41 | 47· | — | | 3 |
| | 10 | SE | 29·96 | 29·70 | 54 | 38 | 46· | — | | |
| | 11 | SW | 30·20 | 29·96 | 51 | 35 | 43· | — | | 16 |
| | 12 | NW | 30·20 | 30·02 | 43 | 34 | 38·5 | 57 | | |
| | 13 | SE | 30·06 | 30·00 | 50 | 36 | 43· | — | | 10 |
| | 14 | SE | 30·03 | 30·00 | 50 | 31 | 40·5 | — | | 4 |
| | 15 | S | 30·40 | 30·00 | 54 | 35 | 44·5 | — | 7 | 14 |
| | 16 | W | 30·38 | 30·29 | 48 | 37 | 42·5 | — | | 12 |
| | 17 | W | 30·41 | 30·33 | 52 | 40 | 46· | — | | |
| | 18 | SW | 30·40 | 30·30 | 56 | 41 | 48·5 | — | 2 | 9 |
| | 19 | NW | 30·40 | 29·94 | 51 | 36 | 43·5 | — | | 6 |
| | 20 | SW | 30·40 | 29·80 | 48 | 32 | 40· | — | 11 | |
| New M. | 21 | N | 30·45 | 30·30 | 46 | 26 | 36· | 44 | | 14 |
| | 22 | SW | 30·30 | 30·15 | 50 | 36 | 43· | — | | 11 |
| | 23 | SW | 30·27 | 30·10 | 50 | 39 | 44·5 | — | | |
| | 24 | SW | 30·22 | 30·10 | 55 | 48 | 51·5 | — | | |
| | 25 | NW | 30·20 | 30·00 | 55 | 44 | 49·5 | — | | 5 |
| | 26 | W | 30·60 | 30·00 | 52 | 36 | 44· | — | 2 | |
| | 27 | NW | 30·70 | 30·57 | 48 | 24 | 36· | — | | 15 |
| | 28 | SW | 30·57 | 30·20 | 50 | 22 | 36· | 57 | | 18 |
| | | | 30·70 | 29·13 | 56 | 22 | | 1·58 | 0·82 | |

NOTES.—Second Mo. 1. Fine. 2. Cloudy: a very stormy night, the wind blowing a gale the greater part of it. 3. Very fine. 4. Cloudy and fine. 5. Very windy all day: a heavy storm of wind and rain about 6, a. m. 6. Fine: lunar halo. 7, 8, 9. Cloudy. 10. 11. Fine. 12. Cloudy. 13. Foggy morning: fine day. 14. Fine. 15. Fine: rain at night. 16. Fine. 17. Cloudy morning: fine day. 18, 19. Cloudy. 20. Cloudy: rain in the evening. 21. Cloudy and fine. 22. White frost. 23. Fine. 24. Cloudy. 25, 26, 27. Fine. 28. Hoar frost: fine. [*Tott.*—1. Fine day: some heavy clouds, which

moved very fast in the evening. 2. Windy most of the day: a little driving rain. 3. Last evening and the night very stormy, with some heavy rain: an elm blown down near the house. 4. Hoar frost. 5. Very windy early, a.m.: heavy rain about seven: exceedingly tempestuous before noon: evening fine: the wind quite abated. 6. Hoar frost. 8. Rain and wind early: cloudy most of the day. 9. Windy evening. 10. A few drops p.m. 11. A smart shower about sunset. 12. Rain in the night: misty: drizzling. 15. Heavy showers about 7 p.m. 19. Rain in the night. 20. Rainy p.m.: fine evening. 23. Very fine day: *the sky about* 21° *by the Cyanometer.*]

## RESULTS.

Winds: N, 1; SE, 3; S, 1; SW, 15; W, 4; NW, 4.

| | | |
|---|---|---|
| Barometer: | Greatest height | 30·70 in. |
| | Least | 29·13 in. |
| | Mean | 30·042 in. |
| Thermometer: | Greatest height | 56° |
| | Least | 22° |
| | Mean | 43·32° |
| | At Tottenham | 41·77° |
| | For 29 days, the sun in Capricorn | 42·655° |
| Evaporation | | 1·58 in. |
| Rain | | 0·82 in. |
| —— at Tottenham | | 0·95 in. |

| 1822. | | Wind. | By Clock. | | Temp. | | Med. | Evap | Rain, &c. | Dan.'s Hygr. at noon. |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Max. | Min. | Max. | Min. | | | | |
| 3d mo. Mar. | 1 | Var. | 30·30 | 30·17 | 50° | 29° | 39·5 | — | | 14 |
| | 2 | SW | 30·30 | 30·20 | 57 | 32 | 44·5 | — | | 13 |
| | 3 | SW | 30·20 | 30·00 | 58 | 28 | 43· | — | | |
| | 4 | SW | 30·00 | 29·85 | 58 | 39 | 48·5 | — | 11 | 16 |
| | 5 | NW | 29·93 | 29·40 | 55 | 43 | 49· | — | 2 | 20 |
| | 6 | SW | 29·50 | 29·30 | 55 | 41 | 48· | — | 10 | 2 |
| | 7 | W | 29·60 | 29·20 | 55 | 34 | 44·5 | 58 | 11 | 4 |
| | 8 | SW | 29·67 | 29·20 | 48 | 39 | 43·5 | — | 41 | 3 |
| | 9 | SW | 29·68 | 29·43 | 52 | 47 | 49·5 | — | 5 | 2 |
| | 10 | SW | 29·90 | 29·43 | 55 | 35 | 45· | — | 27 | |
| | 11 | NW | 30·36 | 29·90 | 48 | 29 | 38·5 | — | | 18 |
| | 12 | SW | 30·34 | 30·00 | 50 | 31 | 40·5 | — | | 16 |
| | 13 | SE | 30·00 | 29·85 | 55 | 39 | 47· | — | | 22 |
| | 14 | SW | 30·20 | 29·90 | 60 | 31 | 45·5 | 53 | 5 | 3 |
| | 15 | N | 30·19 | 30·05 | 53 | 37 | 45· | — | | |
| | 16 | SW | 30·21 | 30·00 | 57 | 50 | 53·5 | — | 1 | 10 |
| | 17 | SW | 30·32 | 29·90 | 54 | 47 | 50·5 | — | 6 | |
| | 18 | NW | 30·35 | 30·20 | 57 | 40 | 48·5 | — | | 9 |
| | 19 | NW | 30·30 | 30·22 | 62 | 50 | 56· | — | | 3 |
| | 20 | NW | 30·26 | 30·20 | 57 | 41 | 49· | — | | 3 |
| | 21 | W | 30·22 | 30·02 | 60 | 39 | 49·5 | 49 | | 8 |
| | 22 | NW | 30·30 | 30·10 | 57 | 37 | 47· | — | | 17 |
| New M. | 23 | W | 30·10 | 29·50 | 66 | 44 | 55· | — | | 23 |
| | 24 | W | 29·70 | 29·51 | 53 | 36 | 45·5 | — | — | |
| | 25 | W | 30·02 | 29·62 | 54 | 34 | 44· | — | 23 | 8 |
| | 26 | W | 30·17 | 30·02 | 54 | 46 | 50· | — | | |
| | 27 | SW | 30·17 | 29·85 | 60 | 40 | 50· | 57 | | 10 |
| | 28 | SW | 30·40 | 29·85 | 72 | 46 | 59· | — | — | 18 |
| | 29 | SW | 30·40 | 29·50 | 62 | 46 | 54· | — | | 20 |
| | 30 | SW | 30·35 | 29·33 | 58 | 33 | 45·5 | — | 18 | 11 |
| | 31 | N | 30·40 | 30·21 | 48 | 32 | 40· | 48 | | |
| | | | 30·40 | 29·20 | 72 | 29 | | 2·65 | 1·60 | |

Notes.—Third Month. 1. Hoar frost: fine. 2. Fine. 3. Hoar frost: fine. 4. Ditto. 5. Cloudy: very boisterous night. 6, 7. Showery. 8. Rainy. 9. Drizzly. 10. Windy: rainy. 11, 12. Fine. 13. *Cirrocumulus.* 14. Drizzly. 15. Fine. 16. Drizzling. 17. Cloudy. 18. Fine: an *Ignis fatuus* seen in the marshes near Bromley in the evening. 19—23. Fine. 24. Cloudy. 25. Rainy. 26. Cloudy. 27. Fine. 28. Fine, and very warm: *Cirrocumulus* and *Cirrostratus* during the whole of the day. 29. Fine. 30. Rainy. 31. Windy:

cloudy. [*Tott.*—2. Cloudy, and rather damp: a few drops of rain. 3. Misty and damp a. m.: very fine and warm day. 5. A profusion of *violets:* the *peach-blossoms* beginning to open: rain in the night: wind rose about dusk. 6. Very stormy night, with showers at intervals. 7. Fine day: wind violent about noon. 8. Fine at sunrise: wet a. m.: gusts with showers: a little sleet p. m. 10. Showers: very windy: violent squall, with rain a little before midnight. 12. Hoar frost: rather thick p. m. 13. Very fine a. m.: *Cirrocumulus.* 17. Showery p. m.: windy at night. 24. A slight shower about noon. 25. Fine day with *Cirrus* and *Cirrocumulus.* At about half-past 7 p. m. a *lunar corona,* at a great height, showing prismatic colours. In a few minutes afterwards, a large meteor descended from the zenith eastward, with a little inclination to south. It vanished with a yellow misty appearance while yet at a considerable elevation. The *corona* before observed was now replaced by a *halo* of the largest diameter, the moon's disk showing dim through mist: *Cirrostratus* of some density occupied the NE the whole time. 30. Cloudy morning: began to rain before nine: showers frequent p. m.: very stormy at night. 31. Windy: cold showers with hail.]

## RESULTS.

Winds: N, 2; SE, 1; SW, 15; W, 6; NW, 6; Var. 1.

| | | |
|---|---|---|
| Barometer: | Greatest height | 30·40 in. |
| | Least | 29·20 in. |
| | Mean | 29·963 in. |
| Thermometer: | Greatest height | 72° |
| | Least | 29° |
| | Mean | 47·34° |
| | At Tottenham | 46·50° |
| | For 30 days, the sun in Pisces | 45·100° |
| Evaporation | | 2·65 in. |
| Rain | | 1·60 in. |
| —— at Tottenham | | 1·39 in. |

| 1822. | Wind. | By Clock. | | Temp. | | Med. | Evap | Rain, &c. | Dan.'s Hygr. at noon. |
|---|---|---|---|---|---|---|---|---|---|
| | | Max. | Min. | Max. | Min. | | | | |
| 4 mo. April 1 | N | 30·31 | 30·20 | 58° | 37° | 47·5 | — | — | 16 |
| 2 | NE | 30·36 | 30·25 | 55 | 33 | 44· | — | — | 20 |
| 3 | NW | 30·25 | 30·10 | 55 | 36 | 45·5 | — | | 12 |
| 4 | NW | 30·10 | 29·98 | 56 | 44 | 50· | — | | 5 |
| 5 | NW | 29·98 | 29·80 | 52 | 41 | 46·5 | — | | |
| 6 | NW | 29·91 | 29·77 | 54 | 35 | 44·5 | — | | 17 |
| 7 | N | 30·00 | 29·91 | 54 | 30 | 42· | 50 | | |
| 8 | NE | 30·03 | 29·97 | 52 | 27 | 39·5 | — | 2 | 18 |
| 9 | NE | 30·06 | 29·97 | 51 | 28 | 39·5 | — | — | 15 |
| 10 | NE | 30·03 | 29·91 | 49 | 33 | 41· | — | — | 15 |
| 11 | E | 29·90 | 29·64 | 50 | 39 | 44·5 | — | 6 | |
| 12 | E | 29·80 | 29·64 | 55 | 40 | 47·5 | — | 35 | 5 |
| 13 | SW | 30·00 | 29·80 | 59 | 39 | 49· | — | 3 | 9 |
| 14 | SE | 29·95 | 29·90 | 65 | 48 | 56·5 | 56 | | |
| 15 | NE | 29·93 | 29·85 | 66 | 48 | 57· | — | 1·02 | 9 |
| 16 | NE | 29·97 | 29·75 | 59 | 46 | 52·5 | — | 3 | 8 |
| 17 | SE | 29·75 | 29·57 | 58 | 45 | 51·5 | — | — | 9 |
| 18 | N | 29·63 | 29·55 | 56 | 39 | 47·5 | — | 15 | 6 |
| 19 | Var. | 29·64 | 29·60 | 58 | 38 | 48· | — | 18 | 9 |
| 20 | SW | 29·60 | 29·50 | 59 | 44 | 51·5 | — | 8 | 16 |
| New M. 21 | SE | 29·50 | 29·22 | 62 | 47 | 54·5 | — | 18 | |
| 22 | S | 29·30 | 29·18 | 60 | 39 | 49·5 | — | 6 | 7 |
| 23 | SW | 29·55 | 29·30 | 58 | 41 | 49·5 | — | 3 | 4 |
| 24 | SW | 29·56 | 29·40 | 60 | 47 | 53·5 | 52 | 10 | 13 |
| 25 | SW | 29·85 | 29·50 | 62 | 41 | 51·5 | — | 2 | 11 |
| 26 | SW | 30·00 | 29·85 | 60 | 45 | 52·5 | — | 4 | |
| 27 | S | 30·20 | 29·90 | 63 | 51 | 57· | — | 8 | 3 |
| 28 | S | 30·22 | 30·19 | 68 | 42 | 55· | — | 1 | |
| 29 | E | 30·20 | 30·18 | 66 | 40 | 53· | — | | |
| 30 | E | 30·30 | 30·20 | 68 | 39 | 53·5 | 35 | | 17 |
| | | 30·36 | 29·18 | 68 | 27 | | 1·93 | 2·44 | |

Notes.—Fourth Mo. 1. Bleak. 2. A very cold wind all day: a lunar halo in the evening. 3. Fine: lunar corona. 4. Fine. 5. Fine. 6. Cloudy and fine. 7. Fine. 8. Fine, with occasional clouds: some hail about 4 p. m. 9. White frost: fine. 10. Bleak: slight hail showers. 11. Very cold wind: cloudy. 12. Stormy. 13. Cloudy. 14. Fine. 15. Cloudy morning: rainy afternoon and night. 16. Showery and fine at intervals. 17. Cloudy. 18. Rain. 19. Gentle showers: hail in the evening. 20. Cloudy: fine. 21. Fine. 22. Cloudy morning: fine afternoon. 23. Showery. 24.

Showery. 25. Showery. 26. Fine: windy. 27. Rain. 28, 29, 30. Fine. [*Tott.*—5. Overcast but fine, save a few drops a. m.: cloudy: a shower about 3 p. m. 7. A slight shower a. m. 8. Fine: cold wind: a shower of hail about 3 p. m.; the hailstones, though rather large, descending with but little force: showers of rain and hail afterwards: a very large *Nimbus* passed over a little before sunset with some rain. 9. Showers of hail p. m.: heavy clouds. 10. Very cold: frequent showers of rain mixed with a little snow and hail. 11. Windy at night: some rain towards morning. 12. Rainy a. m. About half-past 4 p. m. a heavy shower of rain and hail, accompanied with several claps of thunder, and one vivid flash of lightning: bright rainbow: the wind changing to the southward: the air now became mild. 13. Cloudy. 14. Very warm: cloudy. 16. Foggy night. 17. Showers in the evening. 19. Heavy rain about six evening, after thunder about four. 20. Some rain in the night. 21. Very damp a. m.: wet evening. 22. Heavy rain in the night: fine day. 23. Rain early: rather windy: *Nimbi.* 24. Squalls of wind. 25. Wet till noon: fine p. m. 26. A few drops about noon. 27. Wet a. m. 30. Very fine day: *a few swallows.*]

## RESULTS.

Winds: N, 3; NE, 6; E, 4; SE, 3; S, 3; SW, 6; NW, 4; Var. 1.

| | | |
|---|---|---|
| Barometer: | Greatest height | 30·36 in. |
| | Least | 29·18 in. |
| | Mean | 29·836 in. |
| Thermometer: | Greatest height | 68° |
| | Least | 27° |
| | Mean | 49·17° |
| | At Tottenham | 47·33° |
| | For 30 days, the sun in Aries | 47·870° |
| Evaporation | | 1·93 in. |
| Rain | | 2·44 in. |
| —— at Tottenham | | 2·63 in. |

From T. S. *Epping*, May 4th, 1822.—"We had a very sharp thunder-storm on the 12th of last month, between 5 and 6 p. m. It lasted about half an hour, with very heavy rain and hail. The thunder was loud, and one clap like a piece of ordnance: this happened exactly at twenty minutes after five. There fell in this storm ·582 of rain.

"A considerable fall of rain [also] on the 15th, about 4 p. m. and between nine and ten next morning: it amounted to ·946 in." [It will be seen by the note above, that great part of this quantity must have fallen in the *night* of the 15th. It is too much for the space noted.]

| 1822. | Wind. | By Clock. | | Temp. | | T. No. 2. | | Evap | Rain, &c. | Dan.'s Hygr. at noon. |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Max. | Min. | Max. | Min. | Max. | Min. | | | |
| 5 mo. May 1 | E | 30·29 | 30·12 | 66° | 45° | 68° | 35° | — | | 20 |
| 2 | NE | 30·12 | 29·85 | 70 | 33 | 66 | 35 | — | | |
| 3 | E | 29·85 | 29·51 | 70 | 51 | 66 | 47 | — | | 20 |
| 4 | E | 29·62 | 29·51 | 70 | 41 | 67 | 41 | — | 29 | 13 |
| 5 | NE | 29·65 | 29·60 | 74 | 49 | 70 | 47 | 54 | 6 | |
| 6 | NW | 29·72 | 29·65 | 73 | 53 | 70 | 52 | — | 3 | 6 |
| 7 | NE | 29·95 | 29·72 | 64 | 44 | 61 | 44 | — | 60 | 3 |
| 8 | NE | 29·95 | 29·60 | 59 | 37 | 58 | 38 | — | | 15 |
| 9 | NE | 29·60 | 29·20 | 69 | 41 | 54 | 42 | — | | |
| 10 | NE | 29·50 | 29·15 | 59 | 38 | 57 | 34 | 35 | 14 | 3 |
| 11 | SE | 29·72 | 29·50 | 59 | 37 | 64 | 46 | — | 2 | 24 |
| 12 | NE | 29·79 | 29·72 | 56 | 46 | 50 | 45 | — | — | |
| 13 | NE | 29·81 | 29·77 | 58 | 45 | | 44 | — | | 6 |
| 14 | N | 29·85 | 29·80 | 62 | 47 | 69 | 39 | — | | 18 |
| 15 | NE | 29·95 | 29·85 | 76 | 40 | 73 | 40 | 55 | | 13 |
| 16 | NE | 29·93 | 29·90 | 68 | 46 | 68 | 43 | — | — | 15 |
| 17 | E | 29·95 | 29·89 | 80 | 49 | 80 | 47 | — | | 21 |
| 18 | N | 30·03 | 29·95 | 77 | 45 | 75 | 44 | — | | 15 |
| 19 | N | 30·10 | 30·00 | 79 | 45 | 77 | | — | | |
| New M. 20 | SE | 30·22 | 30·10 | 81 | 49 | 78 | 47 | 57 | | 20 |
| 21 | N | 30·31 | 30·22 | 81 | 47 | | | — | | 22 |
| 22 | NE | 30·30 | 30·20 | 76 | 44 | | | — | | 10 |
| 23 | N | 30·20 | 30·00 | 74 | 44 | | | — | | |
| 24 | E | 30·02 | 29·90 | 69 | 42 | | | — | | |
| 25 | N | 29·90 | 29·70 | 72 | 44 | | | 56 | 33 | |
| 26 | SW | 30·08 | 29·70 | 68 | 44 | | | — | 10 | |
| 27 | SW | 30·15 | 30·02 | 67 | 55 | | | — | 1 | |
| 28 | W | 30·20 | 30·15 | 77 | 44 | | | 43 | | |
| 29 | W | 30·28 | 30·20 | 76 | 48 | | | — | | |
| 30 | W | 30·28 | 30·20 | 78 | 48 | | | — | | |
| 31 | W | 30·23 | 30·13 | 79 | 52 | | | 44 | | |
| | | 30·30 | 29·15 | 81 | 33 | | | 3·44 | 1·58 | |

Notes.—Fifth Mo. 1. Very fine. 2. *Cirrus:* wind veered to SE p. m. 3. *Cirrus:* fine. 4. Fine. 5. Very warm: a thunder-storm p. m. 6. Cloudy: close. 7. Rainy. 8. Fine. 9. Cloudy. 10. Showery. 11. Fine. 12, 13. Cloudy. 14—24. Fine. 25. Rain, with thunder, in the afternoon. 26. Showery. 27—31. Fine. [*Tott.*—1. A Lunar corona, evening. 2. Very fine day: *Cumulus* and *Cirrus* p. m.: Lunar corona. 5. Heavy rain 7—8 a. m.: again about 4 p. m. accompanied with several peals of thunder and two or three

flashes of lightning: a constant rolling of distant thunder in the north for some time after, with heavy clouds the rest of the evening. 7 Very wet the latter part of the day. 10. Heavy rain in the morning: fine p. m. 12. Cloudy: a little rain at intervals. 20. Very fine day: heavy clouds in the NW, in the evening, with a few claps of distant thunder, and a shower afterwards. 25. A shower of hail and rain about 1 p. m. with several loud claps of thunder: rain p. m.: fine evening.]

## RESULTS.

Winds: N, 6; NE, 11; E, 5; SE, 2; SW, 2; W, 4; NW, 1.

| | | |
|---|---|---|
| Barometer: | Greatest height | 30·30 in. |
| | Least | 29·15 in. |
| | Mean | 29·941 in. |
| Thermometer: | Greatest height | 81° |
| | Least | 33° |
| | Mean | 57·51° |
| | For 30 days, the sun in Taurus | 55·612° |
| Evaporation | | 3·44 in. |
| Rain | | 1·58 in. |
| —— at Tottenham | | 1·56 in. |

The mean temperature of the first twenty days, observed at Tottenham, is 54·57°; but of the whole the remainder being supplied from the other set, 56·40°.

*Sunderland, May* 11.—Yesterday a most severe gale of wind commenced from E and ESE, with rain, and it is yet [11 a. m.] very bad weather.

Saturday last, [25 May] at half-past two o'clock, the metropolis was visited by a tremendous hail-storm, accompanied by lightning and thunder. It proceeded from the SSW, and the lightning in the neighbourhood of Isleworth, Richmond, Brentford, and Harrow, was truly alarming and terrific. The hailstones fell in such abundance, that they choked the sewers, and having been succeeded by a tremendous shower of rain, many places on the Hammersmith road were for nearly an hour impassable, and several houses were inundated in that direction and in Westminster. The storm was partial, and extended about two miles and a half in breadth, but was a good deal exhausted east of the metropolis.

The Kensington Lace Manufactory had almost the whole of the windows broke, and it was with difficulty the work-people escaped from the broken glass and pieces of ice, some of which measured three inches in circumference, and which were flying about in all directions, to the destruction of a large quantity of valuable lace. In the garden attached, some of the trees were stripped as if it was winter; and on sweeping together the leaves next morning, sparrows were found under them killed. At Malcolm's Nursery, one thousand two hundred squares of glass were demolished, and the destruction of valuable plants is incalculable. In Kensington Palace Gardens, one thousand five hundred squares were destroyed. At a Nursery near Trafalgar-place, the damage is estimated at 300*l.* besides numerous other instances of its destructive effects.—Papers.

# TABLE CXCIII.

| 1822. | | Wind. | By Clock. | | Temp. | | T. No.2. | | Evap | Rain, &c. | Dan.'s Hygr. at noon. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Max. | Min. | Max. | Min. | Max. | Min. | | | |
| 6 mo. June | 1 | SW | 30·19 | 30·12 | 87° | 47° | | 49° | — | | |
| | 2 | SE | 30·20 | 30·15 | 79 | 47 | 78 | 49 | — | | |
| | 3 | E | 30·20 | 30·16 | 81 | 45 | | | 50 | | 22 |
| | 4 | SE | 30·14 | 30·10 | 84 | 51 | 85 | 45 | — | | 24 |
| | 5 | N | 30·15 | 30·10 | 86 | 50 | 84 | 48 | — | | |
| | 6 | NE | 30·17 | 30·10 | 89 | 49 | 85 | 55 | 55 | | |
| | 7 | NE | 30·17 | 30·00 | 78 | 45 | 73 | 46 | — | | |
| | 8 | SE | 30·07 | 29·85 | 85 | 52 | 79 | 51 | — | | 12 |
| | 9 | SE | 29 90 | 29·85 | 86 | 53 | 87 | 52 | 40 | | |
| | 10 | SE | 30·10 | 29·90 | 92 | 58 | 91 | 57 | — | 28 | 20 |
| | 11 | N | 30·12 | 30·05 | 82 | 52 | 81 | 51 | — | | 12 |
| | 12 | N | 30·22 | 30·12 | 74 | 40 | — | — | 50 | | |
| | 13 | N | 30·17 | 29·87 | 83 | 41 | 75 | 42 | — | | |
| | 14 | S | 29·87 | 29·57 | 82 | 56 | 84 | 44 | — | 9 | 17 |
| | 15 | N | 29·80 | 29·60 | 74 | 51 | 73 | 50 | — | 56 | |
| | 16 | E | 30·15 | 29·80 | 74 | 42 | | | — | | |
| | 17 | SE | 30·22 | 30·15 | 72 | 41 | | | 56 | | |
| | 18 | S | 30·20 | 29·90 | 79 | 48 | 74 | 40 | — | | |
| New M. | 19 | N | 29·90 | 29·80 | 80 | 53 | 79 | 41 | — | | |
| | 20 | NE | 30·17 | 29·90 | 70 | 42 | 72 | 40 | — | | |
| | 21 | NE | 30·17 | 30·10 | 74 | 41 | 72 | 41 | 54 | | 22 |
| | 22 | SE | 30·10 | 29·95 | 79 | 49 | 78 | 48 | — | | |
| | 23 | Var. | 29·98 | 29·90 | 81 | 61 | 80 | 58 | — | | |
| | 24 | SW | 30·08 | 29·98 | 79 | 58 | | | 55 | 5 | |
| | 25 | W | 30·08 | 30·00 | 88 | 55 | 84 | 52 | — | | |
| | 26 | SW | 30·10 | 29·90 | 83 | 57 | 82 | 55 | — | | |
| | 27 | N | 30·15 | 30·10 | 78 | 53 | 77 | 49 | 51 | | |
| | 28 | W | 30·12 | 29·86 | 75 | 54 | 75 | 54 | — | 16 | 7 |
| | 29 | NW | 30·08 | 29·81 | 67 | 46 | 72 | 45 | 20 | 5 | |
| | 30 | SW | 30·05 | 29·81 | 73 | 50 | | | 14 | — | |
| | | | 30·22 | 29·30 | 92 | 40 | | | 4·45 | 1·19 | |

Notes.—Sixth Mo. 1—8. Fine: clear, and very warm. 9. A few drops of rain about six p. m.: some lightning from 11 to 12 p. m. 10. Fine: a heavy thunder-storm in the evening. 11—13. Fine: hot. 14. A shower at 3 p. m. 15. Showery. 16. Fine. 17. Cloudy. 18—22. Fine. 23. A slight shower about nine a. m. with some distant thunder. 24. Fine: a heavy shower about 2 p. m. 25—27. Fine. 28. Cloudy. 29. Fine: cloudy: a heavy shower about 10 p. m. 30. Cloudy and fine. [*Tott.*—2. Thunder-clouds in the NE evening. 8. Lightning in the S, about 11 p. m. 9. Very hot a. m.:

thunder-clouds in the NE and E in the evening: distant lightning to the E about 10 p. m. 10. Very hot and fine day: dark clouds in the W about 5 p. m. which soon overcast the whole sky: about six came on a violent thunder-storm, though mostly distant, in the NE, which continued some hours, with a very dark sky. 13. Fine day: brisk air: after a beautiful evening several rose-coloured streaks diverging from the horizon after sunset. 14. Fine a. m.: a heavy shower p. m. 15. Cloudy a. m.: a shower in the middle of the day: wet evening. 20. Overcast a. m.: clouds very heavy about sunset. 22. Slight shower p. m. 23. Heavy clouds with some rain a. m.: fine afternoon: a small portion of a solar halo showing against light clouds, about 7 p. m. 25. Fine a. m.: a shower in the evening. 26. Windy and rather cloudy: heavy rain evening. 27. Cloudy and showery a. m.: fine p. m. 28. Heavy rain evening. 29. Showers. 30. A little drizzling rain about 1 p. m.]

## RESULTS.

Winds N, 7; NE, 4; E, 2; SE, 7; S, 2; SW, 4; W, 2; NW, 1; Var. 1.

| | | |
|---|---|---|
| Barometer: | Greatest height | 30·22 in. |
| | Least | 29·30 in. |
| | Mean | 30·025 in. |
| Thermometer: | Greatest height | 92° |
| | Least | 40° |
| | Mean | 64·68° |
| | At Tottenham (6 days supplied) | 63·13° |
| | For 30 days, the sun in Gemini | 62·838° |
| Evaporation | | 4·45 in. |
| Rain | | 1·19 in. |
| —— at Tottenham | | 1·00 in. |

Oats are said to have been got in, near Oxford, in this month. It is observable that the difference between the highest temperature of the day and the lowest of the night has been very large, having twice amounted to forty degrees, and once to forty-two.

The papers contain accounts of many heavy storms of thunder, lightning, and hail, attended with the loss of some lives, and considerable damage to property, which have occurred in various parts of the island, (and in Ireland,) in the course of this and the last month.

| 1822. | Wind. | By Clock. | | Temp. | | T. No. 2. | | Evap | Hygr. at 9 a. m. | Rain, &c. |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Max. | Min. | Max. | Min. | Max. | Min. | | | |
| 7 mo. July 1 | N | 30·07 | 29·80 | 72° | 46° | 73° | 45° | — | | |
| 2 | SW | 29·90 | 29·79 | 72 | 48 | 77 | 44 | — | | |
| 3 | NW | 29·96 | 29·90 | 78 | 53 | 75 | 49 | — | | |
| 4 | Var. | 29·90 | 29·65 | 78 | 56 | 79 | 57 | 57 | | 16 |
| 5 | Var. | 29·85 | 29·63 | 72 | 46 | 72 | 55 | — | | 70 |
| 6 | N | 30·10 | 29·87 | 71 | 44 | 70 | 43 | — | | |
| 7 | NW | 30·20 | 30·05 | 76 | 52 | 77 | 50 | — | | |
| 8 | NW | 30·20 | 30·02 | 77 | 58 | | | — | | |
| 9 | NW | 30·02 | 29·80 | 74 | 58 | | | 50 | | — |
| 10 | W | 29·82 | 29·75 | 75 | 56 | | | — | | 10 |
| 11 | SW | 29·76 | 29·30 | 75 | 53 | 76 | 51 | — | | 30 |
| 12 | W | 29·85 | 29·31 | 71 | 50 | 71 | 49 | — | | |
| 13 | NW | 30·00 | 29·85 | 70 | 44 | 73 | 42 | 57 | | |
| 14 | NW | 30·00 | 29·90 | 84 | 45 | 75 | 44 | — | | |
| 15 | SE | 29·90 | 29·70 | 74 | 52 | 73 | 51 | — | | |
| 16 | N | 29·70 | 29·60 | 75 | 57 | 73 | 56 | — | | 50 |
| 17 | SW | 29·70 | 29·64 | 75 | 52 | 75 | 50 | 46 | | |
| New M. 18 | SE | 29·67 | 29·40 | 79 | 60 | 78 | 58 | — | | 23 |
| 19 | SW | 29·48 | 29·42 | 78 | 56 | 74 | 53 | — | | |
| 20 | S | 29·53 | 29·48 | 75 | 56 | 73 | 52 | — | | |
| 21 | S | 29·65 | 29·48 | 76 | 60 | 75 | 57 | 56 | | 10 |
| 22 | NW | 29·80 | 29·65 | 76 | 58 | 74 | 56 | — | | |
| 23 | SW | 29·71 | 29·50 | 72 | 60 | 73 | 59 | — | | 25 |
| 24 | SW | 29·60 | 29·53 | 74 | 59 | 75 | 56 | — | | 3 |
| 25 | SW | 29·70 | 29·60 | 73 | 51 | | | 57 | | |
| 26 | SW | 29·74 | 29·58 | 74 | 48 | 74 | 47 | — | | |
| 27 | SW | 29·75 | 29·45 | 78 | 58 | | | — | | 41 |
| 28 | SW | 29·45 | 29·40 | 72 | 56 | | | — | | 5 |
| 29 | W | 29·51 | 29·40 | 74 | 53 | 75 | 51 | — | | 14 |
| 30 | NW | 29·64 | 29·50 | 67 | 46 | 67 | 42 | 58 | | |
| 31 | SW | 29·78 | 29·62 | 75 | 49 | 69 | 41 | 10 | | 26 |
| | | 30·20 | 29·30 | 84 | 44 | | | 3·91 | | 3·23 |

Notes.—Seventh Mo. 1. Cloudy. 2—4. Fine. 5. A thunder-storm about 2 a. m.: a very heavy shower about half-past 10: the rain continued till about 2 p. m. with very frequent thunder at a distance. 6, 7. Fine. 8. Cloudy. 9, 10. Fine. 11. Showery. 12—15. Fine. 16. Fine: night rainy. 17. Fine. 18. Fine: night rainy, with thunder. 19, 20. Fine. 21. Showery. 22. Fine. 23. Showery. 24—28. Fine. 29. Showery: some thunder. 30. Fine. 31. Showery. [*Tott.*—1. Fine day. 2. Fine: loose clouds moving

fast in the sky, evening, with rather brisk wind. 3. Cloudy: cool a. m.: fine day: overcast p. m. with *Cirrus* and *Cumulus*. 4. A few drops of rain evening: very close night: lightning in the S, about 1 a. m. with showers of rain. 5. Cloudy: heavy thunder-storm from the W, about 11 a. m.: showers p. m. 11. Showery: heavy rain evening. 12. Windy: heavy clouds evening. 13. Fresh breeze. 15. Fine day: heavy clouds, with a few drops, evening. 16. Heavy rain evening and night. 17. Driving rain at intervals a. m.: very fine evening. 18. Cloudy evening: rain after dark. 19. Two loud claps of thunder about half-past four a. m. with heavy rain: showery till about nine. 20. Very heavy showers: fine evening. 21. Very showery. 23. Driving showers p. m.: rain in the night. 24. Very windy p. m. 25. Rather rainy a. m. 26. Shower in the middle of the day. 28. Very showery day. 29. Heavy clouds p. m.: shower evening. 30, 31. Showers.]

## RESULTS.

Winds: N, 3; SE, 2; S, 2; SW, 11; W, 3; NW, 8; Var. 2.

| | | |
|---|---|---|
| Barometer: | Greatest height | 30·20 in. |
| | Least | 29·30 in. |
| | Mean | 29·718 in. |
| Thermometer: | Greatest height | 84° [76°] |
| | Least | 44° |
| | Mean | 63·74° [63·61°] |
| | For 31 days, the sun in Cancer | 64·500° |
| | At Tottenham (6 days supplied) | 62·74° |
| Evaporation | | 3·91 in. |
| Rain | | 3·23 in. |
| —— at Tottenham | | 2·67 in. |

The maximum for the month at Stratford, 84°, is probably an error. I find only 70° noted by *Cary*, Strand, at noon, and 69° in R. S. at 2 p. m.

About one o'clock yesterday morning [5th July] the metropolis was visited by a violent thunder-storm, accompanied by heavy rain. The lightning was very vivid, and the peals of thunder loud and long continued. At two o'clock all was again calm, and the rain entirely ceased. In the forenoon a similar storm came over the metropolis, travelling from NW, in the direction of SE. The lightning was extremely vivid, and, had it been night, must have been very awful. The thunder, too, was rolling tremendously, and the rain poured down in torrents. It lasted nearly an hour, and we fear it will make itself disastrously known by its effects.

Owing to the torrent of rain that fell over the metropolis on Friday morning, the great sewer which passes through the Green Park was blown up, and a large space of ground near Buckingham House was inundated. The new aqueduct also, now constructing in Pimlico, was considerably damaged by the immense rush of water, in its way from Mary-la-Bonne to the Thames.—*Pub. Ledger*, Tuesday, 9th.

| 1822. | | Wind. | By Clock. | | Temp. | | T. No. 2. | | Evap | Hygr. at 9 a. m. | Rain, &c. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Max. | Min. | Max. | Min. | Max. | Min. | | | |
| 8 mo. Aug. | 1 | W | 29·78 | 29·68 | 68° | 51° | 67° | 49° | — | | — |
| | 2 | NW | 30·00 | 29·70 | 68 | 43 | | | — | | 8 |
| | 3 | NW | 30·01 | 29·88 | 68 | 50 | 66 | 42 | — | | |
| | 4 | NE | 29·88 | 29·79 | 72 | 46 | 73 | 44 | — | | |
| | 5 | N | 30·00 | 29·80 | 74 | 50 | 74 | 48 | 54 | | — |
| | 6 | NW | 30·07 | 29·97 | 75 | 50 | | | — | | |
| | 7 | W | 29·95 | 29·70 | 72 | 46 | 72 | 44 | — | | |
| | 8 | E | 29·70 | 29·58 | 79 | 51 | 74 | 48 | — | | — |
| | 9 | W | 29·73 | 29·58 | 76 | 59 | 72 | 56 | — | | |
| | 10 | NW | 29·80 | 29·73 | 72 | 59 | 74 | 56 | 56 | | |
| | 11 | SW | 29·80 | 29·78 | 74 | 56 | 73 | 53 | — | | 8 |
| | 12 | SW | 29·80 | 29·70 | 75 | 59 | 76 | 57 | — | | |
| | 13 | W | 29·90 | 29·75 | 74 | 56 | 74 | 53 | — | | 3 |
| | 14 | NW | 29·85 | 29·55 | 72 | 55 | 71 | 53 | 48 | | |
| | 15 | NW | 30·06 | 29·75 | 72 | 46 | 71 | 42 | — | | |
| New M. | 16 | W | 30·20 | 30·06 | 75 | 49 | 78 | 47 | — | | |
| | 17 | NW | 30·21 | 30·20 | 82 | 58 | 81 | 51 | 46 | | |
| | 18 | NW | 30·20 | 30·12 | 80 | 55 | 79 | 53 | — | | |
| | 19 | E | 30·15 | 30·10 | 78 | 53 | 78 | 53 | — | | |
| | 20 | E | 30·12 | 29·98 | 78 | 54 | 76 | 55 | 34 | | |
| | 21 | E | 29·98 | 29·80 | 84 | 62 | 85 | 49 | — | | 2 |
| | 22 | NW | 29·95 | 29·80 | 84 | 57 | 85 | 54 | — | | |
| | 23 | NW | 29·95 | 29·75 | 73 | 50 | 75 | 47 | 41 | | |
| | 24 | SW | 29·77 | 29·58 | 70 | 50 | 70 | 48 | — | | 73 |
| | 25 | W | 29·68 | 29·60 | 70 | 47 | 69 | 43 | — | | 1 |
| | 26 | NW | 29·68 | 29·60 | 70 | 48 | 71 | 46 | 32 | | — |
| | 27 | SW | 29·70 | 29·60 | 71 | 50 | | | — | | 21 |
| | 28 | SE | 29·65 | 29·37 | 68 | 54 | 64 | 50 | — | | 6 |
| | 29 | W | 29·74 | 29·40 | 67 | 50 | 66 | 47 | — | | |
| | 30 | W | 29·90 | 29·73 | 68 | 44 | 68 | 43 | — | | 17 |
| | 31 | W | 30·10 | 29·90 | 69 | 41 | 70 | 40 | 42 | | |
| | | | 30·21 | 29·37 | 84 | 41 | | | 3·53 | | 1.39 |

Notes.—Eighth Mo. 1—5. Fine. 6, 7, 8. Cloudy and fine. 9, 10, 11. Fine. 12. Cloudy morning: fine afternoon. 13. Drizzling morning: very fine afternoon. 14—23. Fine. 24. Fine day: night rainy. 25. Fine. 26. Showers. 27. A thunder-storm about noon: showery. 28. Showery. 29. Fine. 30. Fine: showers in the evening. 31. Fine. [*Tott.*—1. Showers part of the day. 2. Very heavy shower p. m. 5. Shower p. m. 8. Fine, except a slight shower about 10 a. m. Several peals of distant thunder, the lightning visible at times in the W, passing to N and NE, about 5 p. m.

13. Windy: driving showers a. m. 14. Windy a. m. 21. Very fine day, with a breeze a. m.: thunder-clouds. 22. A little rain in the night: very fine day: a little lightning p. m. in the NE. 24. Cloudy most of the day: began to rain at dark, and rained heavily about 11 p. m. 25. Showery day. 26. Shower, p. m. 27. Showery through the day: a very dark cloud p. m. followed by a thunder-shower. 28. Foggy a. m.: heavy showers p. m. 29. Showery, windy day. 30. Showery.]

## RESULTS.

Winds: N, 1; NE, 1; E, 4; SE, 1; SW, 4; W, 9; NW, 11.

| | | |
|---|---|---|
| Barometer: | Greatest height | 30·21 in. |
| | Least | 29·37 in. |
| | Mean | 29·837 in. |
| Thermometer: | Greatest height | 84° |
| | Least | 41° |
| | Mean | 62·53° |
| | At Tottenham (3 days supplied) | 61·00° |
| | For 31 days, the sun in Leo | 63·806° |
| Evaporation | | 3·53 in. |
| Rain | | 1·39 in. |
| —— at Tottenham | | 1·49 in. |

Ripe grapes were gathered from the vines, against the front of the house at Tottenham, on the last of the month. The papers give accounts of violent thunder-storms, with much rain in the evening of the 30th, both in the neighbourhood of Lincoln, and on the banks of the Clyde, in the vicinity of Hyndford-bridge, Scotland.

*The Wolverhampton Chronicle* says, "This town was on Wednesday visited by a tremendous storm of thunder and lightning, with heavy rain, and one of the poles of the Circus, which stood near the Collegiate Church, was shattered to pieces by the electric fluid; it then entered a corner of the place and exploded. About noon on Sunday, another storm came on, more violent and terrific than that of Wednesday; the rain, with hailstones of an immense size, fell in torrents, and we are sorry to say, six exceedingly fine feeding cows, at Graisely, were struck by the lightning, and instantly killed."—*Pub. Ledg.* Aug. 3.

These cows, it is to be hoped, were bled out, and taken 'instantly' afterwards to the butcher—no meat being tenderer, or better, *if dressed in time.*

# TABLE CXCVI.

| 1822. | | Wind. | By Clock. | | Temp. | | T. No. 2. | | Evap | Hygr. at 9 a. m. | Rain, &c. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Max. | Min. | Max. | Min. | Max. | Min. | | | |
| 9th mo. Sept. | 1 | NW | 30·10 | 30·00 | 71° | 40° | 70° | 41° | — | | |
| | 2 | SW | 30·00 | 29·85 | 71 | 41 | 08 | 56 | — | | — |
| | 3 | NW | 30·03 | 29·85 | 73 | 50 | 71 | 48 | 36 | | |
| | 4 | NW | 30·03 | 29·80 | 71 | 58 | 69 | 56 | — | | |
| | 5 | SW | 29·80 | 29·79 | 73 | 60 | 73 | 60 | 30 | | — |
| | 6 | SW | 30·07 | 29·79 | 72 | 47 | 70 | 44 | — | | |
| | 7 | NW | 30·06 | 29·75 | 68 | 48 | 68 | 44 | — | | |
| | 8 | SW | 29·95 | 29·73 | 69 | 48 | 67 | 47 | — | | — |
| | 9 | W | 30·14 | 29·90 | 66 | 45 | 65 | 42 | — | | |
| | 10 | NW | 30·14 | 29·80 | 69 | 42 | 67 | 40 | — | | |
| | 11 | SW | 30·00 | 29·80 | 73 | 46 | 71 | 43 | 81 | | — |
| | 12 | NW | 30·04 | 29·91 | 64 | 50 | 63 | 48 | — | | |
| | 13 | NE | 30·20 | 30·04 | 64 | 33 | 60 | 34 | — | | |
| | 14 | E | 30·16 | 30·02 | 67 | 49 | 64 | 45 | — | | |
| New M. | 15 | E | 30·04 | 30·00 | 62 | 43 | 63 | 42 | — | | 5 |
| | 16 | NE | 30·07 | 30·00 | 70 | 43 | 71 | 43 | — | | |
| | 17 | NW | 30·07 | 30·00 | 77 | 46 | 75 | 45 | — | | |
| | 18 | NE | 30·14 | 30·06 | 70 | 49 | 70 | 48 | — | | |
| | 19 | E | 30·10 | 29·90 | 66 | 47 | 66 | 45 | — | | |
| | 20 | SE | 29·90 | 29·80 | 68 | 47 | 63 | 44 | 91 | | |
| | 21 | NE | 29·87 | 29·80 | 65 | 49 | 63 | 46 | — | | |
| | 22 | E | 29·80 | 29·70 | 58 | 52 | 61 | 33 | — | | 27 |
| | 23 | NE | 29·70 | 29·20 | 64 | 53 | | | — | | 29 |
| | 24 | NE | 29·41 | 29·13 | 60 | 50 | 60 | 49 | — | | 85 |
| | 25 | N | 29·75 | 29·41 | 59 | 40 | 59 | 41 | — | | |
| | 26 | N | 30·17 | 29·75 | 63 | 43 | | | — | | |
| | 27 | N | 30·24 | 30·17 | 58 | 43 | | | — | | — |
| | 28 | NE | 30·17 | 29·90 | 58 | 47 | | | — | | |
| | 29 | NE | 29·90 | 29·73 | 62 | 39 | 61 | 39 | — | | |
| | 30 | NE | 29·73 | 29·62 | 68 | 36 | 62 | 38 | 70 | | |
| | | | 30·24 | 29·13 | 77 | 33 | | | 3·08 | | 1·46 |

NOTES.—Ninth Mo. 1—7. Fine. 8. Cloudy: windy. 9, 10. Fine. 11. Cloudy: a little rain in the evening. 12. Fine. 13. Cloudy and fine. 14. Cloudy. 15. Cloudy: windy. 16. Overcast. 17—21. Fine. 22. Cloudy: windy: swallows begin to congregate. 23. Cloudy: rainy. 24. Rainy. 25. Fine. 26. Cloudy: fine. 27. Bleak. 28—30. Fine.

## RESULTS.

Winds: N, 3; NE, 9; E, 4; SE, 1; SW, 5; W, 1; NW, 7.

| | | |
|---|---|---|
| Barometer: | Greatest height | 30·24 in. |
| | Least | 29·13 in. |
| | Mean | 29·898 in. |
| Thermometer: | Greatest height | 77° |
| | Least | 33° |
| | Mean | 56·05° |
| | For 31 days, the sun in Virgo | 58·064° |
| | At Tottenham (4 days supplied) | 55·50° |
| Evaporation | | 3·08 in. |
| Rain | | 1·46 in. |
| —— at Tottenham | | 1·03 in. |

### Chalky Rain.

*From a Communication to the Royal Society, by the Count Gioeni.*

"The morning of the 24th of April, 1781, exhibited here [in the third region of *Mount Ætna*] a most singular phenomenon. Every place exposed to the air was found wet with *a coloured cretaceous grey water,* which after evaporating and filtering away, [in part,] left [the ground] covered to the depth of two or three lines. All the iron-work that was touched by it became rusty. The shower extended from N, a quarter NE, to S, a quarter SW, *over the fields about seventy* [probably an error of the press for seventeen] *miles in a right line from the vertex of Ætna.*

"There is nothing new in volcanoes having thrown up sand and stones—but the colour and subtilty of the matter in question occasioned doubts concerning its origin, which were increased by the remarkable circumstance of the water in which it came incorporated. [The Count proceeds here to relate the processes by which he endeavoured to ascertain the nature of this product, and which do not amount to a satisfactory chemical analysis. He seems to have convinced himself that it was 'a calcareous salt' with a mixture of iron.] How this volcanic product came to be mixed with water may be conceived in various ways. *Ætna,* about its middle region, is generally surrounded by clouds that do not always rise above its summit, which is two thousand nine hundred paces above the level of the sea. This matter being thrown out, and descending on the clouds below, may happen to mix and fall in rain, with them, in the usual way. It may also be conjectured, that the thick smoke which the

volcanic matter contained, might, by its rarefaction, be carried in the atmosphere by the winds, over that tract of country; and then, *cooling so as to condense and become specifically heavier than the air,* might descend in that coloured rain."—He then proceeds to give a description of the phenomena of the mountain, from ten to fourteen days later, being those of a regular eruption, with 'a column of smoke, composed of globes, as it were, piled on each other,' ascending to double the height of the mountain, and remaining a whole night perpendicular over the crater. "Now and then, all the inside of the column, and of a part which had separated and lengthened out to the westward, became illuminated by electric fire, which was of a deep red colour, and gradually went out again (beginning at the bottom) in about two seconds."—*Philo. Trans.* vol. lxxii.

The confused explanation above given is probably the true one. This grey matter was an *oxide,* produced from a *metallic base* or sublimate ejected, along with a prodigious quantity of steam, from the bowels of the mountain, and condensed along with that into this singular mixed rain.—L. H.

### Portentous Rains of Milk, Blood, &c.

*Pliny* cites some of these in his Natural History. The *Acta* et *Monumenta* record, for the year in which M. Acilius and C. Porcius were consuls, a rain of *milk* and *blood* [probably of volcanic origin, like the one above described, but the earth of two colours] adding —— 'as also often at other times.' Again, under P. Volumnius and Servius Sulpicius, a rain of *flesh,* which did not putrify, for the fowls [the vultures] never came near it. In *Lucania,* in the year before Crassus was slain by the Parthians, and his numerous body of Lucanians with him, it rained *iron.* The appearance out of which this came was like sponges; and the haruspices predicted only *superna vulnera,* (wounds on the upper parts of the body,) the weapons coming from above. When L. Paulus and C. Marcellus were consuls, it rained *wool:* about a year after which, T. Annius Milo was assassinated; and while the indictment upon his murder was trying, it rained burnt bricks, as is related in the *Acta* of that year.

I shall quote the following from *Cicero* in the Latin, that my readers may give, to such youths as may have learned that language, a little employment in translating it. "Sanguinem pluisse Senatui nuntiatum est: atratum etiam fluvium [the common sewer] fluxisse sanguine: Deorum sudasse simulacra. Num censes his nuntiis Thalem aut Anaxagoram, aut quem quam *physicum* crediturum fuisse? Nec etiam sanguis, nec sudor nisi a corpore est: sed et decoloratio quædam ex aliquâ contagione terrenâ [the very cause

found since by examination] maximè potest sanguinis similis esse; et humor allapsus extrinsecus, ut in tectoriis videmus, Austro [flante] sudorem imitare [the true cause again.] Quicquid enim oritur, qualecunque est, causam habeat a naturâ necesse est: ut etiam si præter consuetudinem extiterit, præter naturam tamen non possit existere. *Causam* igitur investigato, in re novâ atque admirabili, si poteris. Si nullam reperies, illud tamen exploratum habeto, nihil fieri potuisse sine causâ: eumque errorem quem tibi rei novitas attulerit naturæ ratione depellito. Ita te nec lapideus aut sanguineus imber, nec trajectio stellæ, nec faces visæ terrebunt."—*De Divinatione:* Lib. 2.

| 1822. | Wind. | By Clock. | | Temp. | | T. No. 2. | | Evap | Hygr. at 9 a. m. | Rain, &c. |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Max. | Min. | Max. | Min. | Max. | Min. | | | |
| 10th m. Oct. 1 | E | 29·72 | 29·62 | 56° | 45° | 64° | 53° | — | | — |
| 2 | E | 29·71 | 29·63 | 66 | 56 | 64 | 54 | — | | 35 |
| 3 | SE | 29·73 | 29·64 | 69 | 46 | 66 | 45 | — | | 8 |
| 4 | E | 29·68 | 29·52 | 67 | 53 | 65 | 49 | — | | 5 |
| 5 | SW | 29·52 | 29·37 | 67 | 46 | 65 | 42 | — | | 29 |
| 6 | NW | 29·65 | 29·29 | 58 | 46 | 58 | 42 | — | | 6 |
| 7 | SW | 29·60 | 29·40 | 61 | 49 | 60 | 51 | — | | 5 |
| 8 | SW | 29·77 | 29·52 | 60 | 49 | 58 | 45 | — | | 14 |
| 9 | SW | 29·89 | 29·52 | 65 | 46 | 64 | 42 | — | | 16 |
| 10 | W | 30·15 | 29·89 | 60 | 41 | 60 | 38 | — | | 13 |
| 11 | SW | 30·12 | 29·71 | 58 | 45 | 59 | 41 | 91 | | |
| 12 | SE | 29·71 | 29·30 | 62 | 56 | 61 | 51 | — | | 2 |
| 13 | S | 29·93 | 29·30 | 60 | 44 | 58 | 42 | — | | 23 |
| 14 | NW | 29·98 | 29·70 | 52 | 30 | 58 | 29 | — | | |
| New. M. 15 | SW | 29·70 | 29·20 | 50 | 44 | 53 | 37 | — | | 40 |
| 16 | Var. | 29·28 | 29·17 | 56 | 47 | 49 | 46 | — | | 30 |
| 17 | NE | 29·62 | 29·28 | 51 | 38 | 49 | 36 | — | | 24 |
| 18 | NW | 29·61 | 29·31 | 51 | 39 | 50 | 36 | — | | 15 |
| 19 | SW | 29·51 | 29·30 | 58 | 49 | 51 | 45 | — | | 35 |
| 20 | SW | 29·50 | 29·30 | 59 | 47 | 47 | 43 | — | | 18 |
| 21 | SW | 29·75 | 29·50 | 61 | 42 | 58 | 43 | — | | 10 |
| 22 | W | 29·82 | 29·47 | 55 | 30 | 57 | | — | | |
| 23 | SE | 29·47 | 29·30 | 57 | 50 | | | — | | |
| 24 | SE | 29·50 | 29·30 | 63 | 42 | | | 78 | | 11 |
| 25 | SE | 29·57 | 29·40 | 63 | 42 | | | — | | |
| 26 | SE | 29·52 | 29·35 | 60 | 48 | | | — | | 13 |
| 27 | NW | 29·80 | 29·52 | 55 | 30 | | | — | | |
| 28 | Var. | 22·95 | 29·80 | 58 | 38 | | | — | | 8 |
| 29 | SW | 30·05 | 29·90 | 57 | 45 | | | — | | 2 |
| 30 | SE | 29·90 | 29·64 | 61 | 47 | | | — | | |
| 31 | SE | 29·85 | 29·65 | 62 | 43 | | | 30 | | |
| | | 30·15 | 29·17 | 69 | 30 | | | 1·99 | | 3·62 |

Notes.—Tenth Mo. 1. Fine. 2. Rainy. 3. Cloudy and fine. 4. Foggy morning: very frequent lightning in the evening: some thunder: night stormy. 4. Cloudy. 6. Cloudy: windy. 7. Cloudy. 8. Rain. 9. Variable. 10. Fine morning: rainy night. 11. Fine. 12. Cloudy. 13. Rainy: stormy night. 14. Fine. 15. Cloudy: rainy night. 16, 17. Rainy. 18. Day fine: night rainy. 19. Rainy: a storm of thunder, lightning, and hail, between twelve and one. 20. Rainy. 21. Showery: night boisterous. 22. Fine: *Stratus* in the marshes at night. 23. Fine. 24. Day fine: evening rainy.

25. Fine. 26. Cloudy: fine. 27. Fine: *Stratus* on the marshes at night. 28. Fine. 29. Cloudy. 30. Cloudy. 31. Fine. [*Tott.*—2. Damp and cloudy: rain about nine, and again p. m. 3. Very wet forenoon: fine p. m. 4. Very misty, damp, and close: very vivid lightning in the E. for about half an hour evening: some showers afterwards. 5. Fine day: rain at night. 7. Squalls of wind and rain early. 8. Stormy a. m. 9. Very wet in the evening.]

## RESULTS.

Winds: NE, 1; E, 3; SE, 8; S, 1; SW, 10; W, 2; NW, 4; Var, 2.

| | | |
|---|---|---|
| Barometer: | Greatest height | 30·15 in. |
| | Least | 29·17 in. |
| | Mean | 29·602 in. |
| Thermometer: | Greatest height | 69° |
| | Least | 30° |
| | Mean | 51·79° |
| | For 30 days, the sun in Libra | 51·883° |
| Evaporation | | 1·99 in. |
| Rain | | 3·62 in. |
| —— at Tottenham | | 3·93 in. |

The mean Temp. at Tottenham for 22 days is 50·51°; with the remainder supplied from the Stratford observations, 50·80°.

The delivery of the post on Monday morning was unusually delayed, in consequence, we understand, of a change of wind, which brought various vessels into port, which, owing to contrary winds, had been beating about the chops of the Channel for several days past. An influx of not less than two hundred and fifty thousand letters *beyond the ordinary number*, to be also assorted for delivery, occasioned the delay to which we have alluded.—*Wed. Oct.* 9.

*Penzance, Oct.* 7.—It has blown a most tremendous gale from SSW and SW, all night and this morning, accompanied with heavy showers of rain and hail.

*Milford, Oct.* 13.—Last night the wind suddenly changed from the SW, and is now blowing a gale from NE.

*Liverpool, Oct.* 13.—There is a signal of distress for a vessel on shore outside —blowing a gale from ENE.

*Plymouth, Oct.* 13.—Wind N.—It blew very strong last night from the SW, but no damage done; the Breakwater Light has drifted some distance from her moorings.

*Harwich, Oct.* 14.—It blew a heavy gale last night from E to ENE. Several vessels have lost anchors and cables off here.

*Yarmouth, Oct.* 14.—About thirty sail of vessels cut from their anchors this morning in the Roads, the wind flew round last night to the NNE and NE, and blew a gale about ten o'clock.

*Deal, Oct.* 14.—Wind NE.—About two a. m. the wind shifted suddenly to the NE, and blew a tremendous gale till nearly day-light; afterwards it gradually abated. The weather is still unsettled, and the wind inclining to be strong from the northward.

*Penzance, Oct.* 24.—For the last two days it has blown a hurricane.—*Public Ledger.*

| 1822. | Wind. | By Clock. | | Temp. | | T. No. 2. | | Evap | Hygr. at 9 a. m. | Rain, &c. |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Max. | Min. | Max. | Min. | Max. | Min. | | | |
| 11 mo. Nov. 1 | SW | 29·82 | 29·60 | 61° | 55° | 59° | 53° | — | | — |
| 2 | SW | 30.05 | 29·70 | 62 | 48 | 60 | 45 | — | | 10 |
| 3 | SW | 30·28 | 30·05 | 58 | 38 | 56 | 43 | — | | |
| 4 | W | 30·28 | 30·20 | 53 | 40 | | | — | | |
| 5 | W | 30·20 | 30·11 | 55 | 46 | 55 | 44 | — | | |
| 6 | SW | 30·10 | 29·82 | 55 | 40 | 56 | 38 | — | | |
| 7 | SW | 29·90 | 29·82 | 58 | 38 | 55 | 38 | — | | — |
| 8 | N | 29·93 | 29·85 | 52 | 28 | 52 | 28 | — | | — |
| 9 | NE | 29·90 | 29·55 | 53 | 39 | 49 | 51 | — | | 29 |
| 10 | NE | 30·23 | 29·90 | 52 | 40 | 51 | 37 | — | | |
| 11 | NE | 30·22 | 29·95 | 50 | 40 | 50 | 37 | — | | |
| 12 | S | 29·90 | 29·70 | 56 | 42 | 54 | 40 | — | | 9 |
| New M. 13 | NW | 29·70 | 29·27 | 50 | 33 | | 31 | — | | 18 |
| 14 | NW | 29·38 | 29·02 | 51 | 40 | 51 | 44 | — | | 32 |
| 15 | SW | 29·40 | 29·10 | 51 | 41 | 48 | | — | | 58 |
| 16 | NE | 29·55 | 29·10 | 44 | 32 | | 29 | 97 | | 62 |
| 17 | SW | 29·63 | 29·50 | 51 | 45 | 51 | 45 | — | | 5 |
| 18 | SW | 29·83 | 29·63 | 55 | 42 | 56 | 41 | — | | |
| 19 | SW | 29·73 | 29·56 | 56 | 41 | 55 | 47 | — | | 36 |
| 20 | Var. | 29·68 | 29·48 | 56 | 49 | 55 | 46 | — | | 13 |
| 21 | W | 29·85 | 29·60 | 51 | 40 | 51 | 45 | — | | |
| 22 | SW | 29·64 | 29·50 | 52 | 45 | 52 | 43 | — | | 30 |
| 23 | SW | 29·85 | 29·65 | 52 | 43 | | | — | | |
| 24 | SW | 29·65 | 29·40 | 53 | 45 | 52 | 39 | — | | 7 |
| 25 | SW | 30·01 | 29·80 | 52 | 45 | 50 | 42 | — | | 4 |
| 26 | SW | 29·62 | 29·37 | 55 | 45 | 47 | 42 | — | | — |
| 27 | SW | 29·65 | 29·20 | 50 | 36 | | | — | | 5 |
| 28 | Var. | 29·37 | 29·10 | 45 | 36 | | | — | | 15 |
| 29 | SW | 29·30 | 29·10 | 46 | 31 | | | — | | 8 |
| 30 | SW | 29·40 | 29·10 | 47 | 34 | | | 91 | | 5 |
| | | 30·28 | 29·02 | 62 | 28 | | | 1·88 | | 3·46 |

Notes.—Eleventh Month. 1. Fine. 2. Cloudy. 3. Fine. 4, 5. Cloudy and fine. 6—8. Fine. 9. Foggy. 10. Cloudy. 11. Morning foggy. 12. Rain at night: day fine. 13, 14. Cloudy. 15. Morning fine: night rainy. 16. Rainy. 17. Cloudy and fine. 18. Cloudy. 19. Cloudy: night rainy. 20. Cloudy. 21. Fine. 22. Cloudy. 23. Cloudy and fine. 24. Fine. 25. Fine. 26. Cloudy. 27. Cloudy and fine. 28. Rainy. 29. Showers. 30. Showers: overcast.

## RESULTS.

Winds: N, 1; NE, 4; S, 1; SW, 17; W, 3; NW, 2; Var. 2.

| | | |
|---|---|---|
| Barometer: | Greatest height | 30·28 in. |
| | Least | 29·02 in. |
| | Mean | 29·818 in. |
| Thermometer: | Greatest height | 62° |
| | Least | 28° |
| | Mean | 46·65° |
| | At Tottenham with 5 days supplied | 45·28° |
| | For 31 days, the sun in Scorpio | 50·00° |
| Evaporation | | 1·88 in. |
| Rain | | 3·46 in. |
| —— at Tottenham | | 3·72 in. |

*Brighton*, *Nov.* 16.—The weather has been extremely tempestuous for the last three or four days; so much so as to occasion considerable damage.

*Liverpool*, *Nov.* 16.—The wind yesterday blew a hard gale from the SW. This day it is moderate from the westward.

*Falmouth*, *Nov.* 16.—The wind sprung up from the northward this morning.

*Plymouth*, *Nov.* 16.—It has blown very heavy to-day in squalls, with hail and rain.

*Portsmouth*, *Nov.* 17.—Wind SW. It has blown hard this day from SW.

*Deal*, *Nov.* 17.—Wind WSW.

*Falmouth*, *Nov.* 22.—It has been blowing excessively heavy all day from SSW and SW, with an appearance this moment (one p. m.) of an abatement. The weather is very dirty and thick.

*Plymouth*, *Nov.* 21.—Wind SW.—Arrived the Fame, from Demerara, in forty-one days; Rose, Humphries, from Zante, in seventy-two days; Annesley, Goodwin, from Lisbon, in eleven days, with loss of fore-mast and various sails.

*Portsmouth*, *Nov.* 22.—Wind SW, and blowing hard.

*Liverpool*, *Nov.* 21.—Wind W, fresh breezes.

*Falmouth*, *Nov.* 21.—Wind WSW. Put back the Probity, Cooper, for Lisbon.

*Deal*, *Nov.* 22.—Half-past six. It blows strong from WSW, and every appearance of a squally night.

*Nov.* 23.—Wind WSW, strong wind.

Half-past six.—We have had some heavy squalls of wind from W by S. It is now more moderate, and the outward-bound appear all well.

*Liverpool*, *Nov.* 23.—This morning, at three o'clock, it commenced blowing a strong gale at SW, with hail and lightning, and I fear there will be many losses.

Eight o'clock.—It continues to blow with increased violence.

Extract of a letter from Lloyd's Agent at Limerick, dated the 16th Nov.—"On Thursday evening, the 14th, at six p. m., it came on to blow very hard from S to SSW, with heavy rain. About ten it came from W, and then to WNW, blowing a most tremendous gale of wind, with heavy showers of rain and hail, which continued during the night and the whole of yesterday, until four o'clock p. m. The tide was so high yesterday morning as to be over all the quays, and forced open the gates of the dry dock, where the brig Pacific, burthen 350 tons was repairing; the shores all gave way; the vessel immediately floated, but being light, and blowing hard, she upset, and sustained considerable damage."—PAPERS.

| 1822. | | Wind. | By Clock. | | Temp. | | T. No.2. | | Evap | Hygr. at 9 a. m. | Rain, &c. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Max. | Min. | Max. | Min. | Max. | Min. | | | |
| 12th mo. Dec. | 1 | SW | 29·10 | 28·82 | 49° | 35° | ° | 33° | — | | 26 |
| | 2 | SW | 29·45 | 28·95 | 42 | 33 | | 32 | — | | 42 |
| | 3 | N | 29·58 | 29·27 | 43 | 30 | | 28 | — | | |
| | 4 | SW | 29·74 | 29·27 | 49 | 31 | | 30 | — | | 35 |
| | 5 | SW | 29·55 | 28·93 | 46 | 35 | | 30 | — | | 33 |
| | 6 | NW | 30·05 | 29·55 | 45 | 31 | | 29 | — | | |
| | 7 | NW | 30·21 | 30·05 | 40 | 28 | | 26 | — | | |
| | 8 | SW | 30·18 | 30·08 | 48 | 32 | | 31 | — | | |
| | 9 | SW | 30·49 | 30·08 | 48 | 32 | | 30 | — | | — |
| | 10 | NW | 30·57 | 30·49 | 44 | 26 | | 22 | — | | |
| | 11 | NE | 30·59 | 30·50 | 33 | 24 | | 25 | — | | |
| | 12 | NE | 30·51 | 30·29 | 40 | 29 | | | — | | |
| New M. | 13 | E | 30·29 | 30·17 | 39 | 30 | | 27 | — | | |
| | 14 | SE | 30·17 | 30·00 | 36 | 26 | | 24 | — | | |
| | 15 | NE | 30·19 | 29·99 | 37 | 31 | | 31 | — | | |
| | 16 | NE | 30·32 | 30·19 | 36 | 30 | | 30 | — | | |
| | 17 | NW | 30·22 | 30·19 | 42 | 31 | | 33 | — | | — |
| | 18 | NE | 30·30 | 30·18 | 45 | 35 | | 40 | — | | |
| | 19 | NE | 30·33 | 30·30 | 38 | 27 | | 27 | — | | |
| | 20 | NE | 30·31 | 30·27 | 36 | 26 | | 26 | — | | |
| | 21 | NE | 30·27 | 30·05 | 35 | 26 | | 26 | — | | |
| | 22 | NE | 30·05 | 30·00 | 38 | 32 | | 30 | — | | |
| | 23 | NE | 30·15 | 30·00 | 42 | 34 | | 33 | — | | |
| | 24 | NE | 30·47 | 30·15 | 35 | 31 | | 30 | — | | |
| | 25 | E | 30·47 | 30·40 | 34 | 23 | | 27 | — | | |
| | 26 | SE | 30·40 | 30·33 | 36 | 18 | | 21 | — | | |
| | 27 | E | 30·35 | 30·19 | 34 | 14 | | 15 | — | | |
| | 28 | NE | 30·20 | 29·97 | 29 | 19 | | 17 | — | | |
| | 29 | NE | 29·97 | 29·73 | 31 | 20 | | | — | | |
| | 30 | E | 29·73 | 29·66 | 30 | 23 | 26 | | — | | |
| | 31 | E | 29·72 | 29·66 | 31 | 27 | | | 98 | | |
| | | | 30·59 | 28·82 | 49 | 14 | | | ·98 | | 1·36 |

Notes.—Twelfth Mo. 1. Rainy. 2. Fine day: rainy night. 3. Fine. 4. Rainy. 5. Fine day: between eight and nine p. m. rain commenced with a very brisk wind from the SW, which increased during the night to a violent gale. 6. Very windy morning: cloudy. 7. Foggy. 8. Fine. 9. Cloudy. 10. Very fine morning: fine day. 11. Hoar frost: very foggy day: cleared off at night. 12. Hoar frost: fine day. 13. Fine. 14. Foggy. 15. Cloudy. 16. Raw cold: overcast. 17. Foggy. 18. Cloudy: atmosphere heavy. 19. A strong bleak wind. 20. Bleak. 21. Fine and clear. 22. Fine.

23, 24. Cloudy. 25. Cloudy and fine. 26. Fine: bright moonlight night. 27. Fine: clear. 28. Hoar frost. 29, 30. Fine. 31. A little snow in the afternoon.

## RESULTS.

Winds: N, 1; NE, 13; E, 5; SE, 2; SW, 6; NW, 4.

| | | |
|---|---|---|
| Barometer: | Greatest height | 30·59 in. |
| | Least | 28·82 in. |
| | Mean | 30·057 in. |
| Thermometer: | Greatest height | 49° |
| | Least | 14° |
| | Mean | 33·55° |
| | For 29 days, the sun in Sagittarius | 38·172° |
| Evaporation | | 0·98 in. |
| Rain | | 1·36 in. |
| —— at Tottenham | | 2·06 in. |

The rain for this and the last month, at Tottenham, is divided between the two partly by estimate. The mean temperature of twenty-nine nights at Tottenham is 27·76°. The higher extreme was not taken.

### *Hurricane of the 5th Dec.* 1822.

On the 5th of the Twelfth Month, 1822, in consequence of one of those critical changes occurring at uncertain periods, in the general direction of the currents which traverse our islands, we had a real hurricane. It is remarkable, as having been preceded by *twenty-three days* of a low barometer, fluctuating on a mean of 29½ inches, with southerly and westerly winds, and followed by *twenty-two days* chiefly of northerly and easterly, with the barometer between 30 and 30½ inches. The continued *depression* began at the new moon, and the *turning point* coincides with the last quarter next following; the *elevation* being sustained to the occurrence of the second full moon, after the commencement of this remarkably balanced period. The following extracts from the papers may serve to show the extent of the storm: an abundance of accounts of serious accidents, some of them attended with loss of life, being omitted.

*Dover, Dec.* 6.—It blew last night a perfect hurricane, and I expect much damage on the coast. A foreign galliot is on shore at Dymchurch—all hands down.

*Harwich, Dec.* 6.—It is feared that great loss and damage will have been sustained from the dreadful gale of last night, westward. The master of a fishing smack reports, that he passed upwards of twelve sail on shore upon the Gunfleet sand.

*Yarmouth, Dec.* 6.—Last night, about nine o'clock, a heavy gale came on from S and SW, and blew excessively hard.

*From the Norwich Mercury.*—Thursday night this city experienced one of the most tremendous gales, accompanied by a heavy rain, ever remembered. The gusts which followed each other were most terrific, and threatened the safety both of the houses (which actually rocked to and fro from the violence) and their inmates.

By the tremendous gale of wind on the night of Thursday last, a brick wall of between seventy and eighty feet in length, at Ipswich, was completely blown down.

*Brighton, Dec.* 6.—At seven o'clock on the 5th, a small squall came on from the WSW, and raged until half-past nine, during which the rain descended in one incessant torrent, and the roar and fury of the wind is not to be described. Considerable alarm was excited by it in many parts of the town; several houses were nearly unroofed, and one, not quite finished, five stories high, in Russell-square, was levelled with the ground. The chain-pier works sustained further injury, but not to the extent which had been anticipated. Fortunately there were no shipping in this part of the Channel last night, or we might have had many wrecks at this time to have particularized.

The accounts received on Saturday from the coast are very distressing. Several vessels were wrecked during the storm on Thursday night. At Dover, many houses were injured by the tempest, and some tenements were blown down.

*From a York Paper.*—In the night of Thursday last we experienced a great storm of wind, snow, and rain, which continued till four or five o'clock on Friday morning.

*From the Manchester Guardian.*—One of the most terrific gales of wind with which this town has been visited for many years was experienced on Thursday night. It commenced about night-fall, from the south-west, afterwards veering round to the west, and gradually increased in violence until about twelve o'clock, when it blew a perfect hurricane, accompanied by heavy rain. By ten o'clock the town was left in almost utter darkness, the greater part of the gas-lights being blown out, and those which escaped extinction were so violently agitated by the wind as to afford but little light. Many families passed the greater part of the night by the fire side, not daring to retire to rest until the gale had abated.

*Warrington.*—The cupola of the church, near the George Inn, was blown down and destroyed great part of the roof. A windmill in the neighbourhood was also blown entirely down.

*From the Liverpool Mercury of Friday.*—Yesterday afternoon and evening, [Dec. 5,] a remarkably strong gale of wind was experienced here, accompanied with rain, sleet, and hail, which continued with little intermission until after nine o'clock, when it increased in force and destruction, bursting against the higher buildings of the town in sudden and stunning gusts. The alarm was general, and accounts are now pouring in upon us from all quarters, of the melancholy effects of the storm, both on shore and on the river.

*Falmouth, Dec.* 5, 1822.—It blew yesterday afternoon and the greatest part of the night, a tremendous gale from SW and WSW, and we scarcely recollect seeing a more heavy sea running between the castles of Pendennis and Mawes.

*Campbeltown, Dec.* 7.—On Thursday last, the 5th instant, (no post going from this since about seven o'clock,) it came on here a most violent gale from the south. During the night the wind shifted to SE, E, NE, and NW, when it blew a hurricane.

The storm which raged with such violence over the kingdom during the afternoon and night of the 7th inst. was felt with equal force in *Monmouth* and neighbourhood. The magnificent elm at Ragland Castle has fallen. The venerable tree, which formed a happy termination at the east end of the terrace, measured twenty-six feet in girth, and from whose trunks the two limbs which grew from the head of it, spread their protecting shade twenty-two feet, fell a sacrifice to the fury of the elements, being blown from its commanding situation into the mead below.

During the violence of the late storm, twelve fine elm trees of large dimensions, were torn up by the roots, in front of and in the grounds of Trevallyn Hall, the seat of George Boscawen, Esq. One of the trees that grew in the centre of the lawn is much to be regretted; it was a very handsome ornamental tree, whose branches spread over a large extent of ground, and which was the admiration of those who noticed it. The circumference of the butt is twelve feet, and contains in measurement three hundred and twenty-two feet of solid timber: it was planted about the year 1760, by the late Mr. Boydell, of Trevallyn.

During the late storm a large chimney was blown on to the roof of a house adjoining the Sportsman Inn, at Greetland, near *Halifax*, which burst through three floors, taking along with it two children out of the middle room, and depositing them in the cellar. Amongst the ruins were the father, and mother, and three children, who all escaped with their lives, but not without several severe bruises.

*Warwick, Dec.* 7.—The weather during most part of the present week has been extremely inclement and variable, and on Thursday night it was accompanied with one of the most dreadful gales of wind we ever remember to have experienced; in fact, it blew a perfect hurricane. In this town and neighbourhood its effects were widely felt; scarcely a roof has escaped some damage, more or less extensive, and many windows have been nearly shattered to pieces by the fury of the blast.

*Bristol, Dec.* 9.—This city and neighbourhood experienced, on Thursday night, one of the most tremendous gales of wind from the SW, that we have ever remembered. We hear from the guards of the Birmingham and Oxford mails, that the roads and fields, as they passed, were strewed with trees and branches.

*Staffordshire.*—In the northern part of the county, on Thursday evening, the wind gradually rose, accompanied with showers, and blew with terrific violence during the night.

*The Salopian Journal* says, "On Thursday night last, this district of the kingdom was visited by a hurricane of ten hours' continuance. In Shrewsbury and its neighbourhood, the effects, though great in point of damage to buildings, chimnies, glass, furniture, trees, &c. did not extend to loss of life, or any great personal injury. Several of the coaches that run to this town were in a most perilous situation; the Holyhead mail coach was upset in the Principality by the violence of the wind. Ninety trees were blown down in Powis Castle Park. A poor man was found dead in a ditch by the side of the road near Wellington-under-Dinmore, Herefordshire; he had been blown into the ditch by the violence of the wind, and was unable to extricate himself."

*Limerick, Dec.* 7.—This city was visited with a most tremendous storm on Thursday. In Mary-street the roofs of several houses fell in, from one of which a young girl, endeavouring to escape, had her leg broken. In Fish-lane a house was blown down, and from the tottering walls of many others, the inmates were taken out by ladders.

*Kilkenny, Dec.* 7.—Since our last publication we have been threatened with a return of the wet and disagreeable weather which has so long prevailed in this quarter. Thursday was foul and squally throughout. More rain fell here on that day, than in any twenty-four hours of the last dreary month. In the evening, from five to six o'clock it blew a perfect hurricane from the SW, and many houses in and near this city sustained more or less damage.—The repair of the damage done to the barracks will cost more than one hundred guineas. The storm gradually subsided from the latter hour. The stars peeped forth in wintry splendour. The night was beautifully serene; and yesterday the sun re-appeared in all the brilliancy of a northern December, with a very gentle breeze at WNW by W. Our accounts from every part of the country, describe the active industry displayed by the people each moment since the return of fine weather, as most praiseworthy. In short the potatoe crop may be said to be saved, and the field-work is much more forward than could have been expected from the long prevalence of unfavourable weather.

*Drogheda, Dec.* 7.—The weather for the last month has been tempestuous, cold and rainy. Thursday it blew a gale, accompanied by incessant rain. The inhabitants were thrown into consternation, from the fear of their houses falling, and being buried in the ruins. The night was dismal, and during this awful visitation nothing was heard but the roaring of the wind, the falling of the slates and tiles, and the breaking of glass.

*Dublin.*—Thursday, about three o'clock, there was a dreadful storm in this city and the suburbs, which commenced with rain, the wind blowing from the NW. It increased to a perfect hurricane, unexampled in the memory of the oldest inhabitant of Dublin, about half-past six in the evening, and continued with unabated fury for three hours, the extreme violence having diminished about half-past nine. Very few houses have escaped uninjured. We fear the hay and corn haggards have suffered considerably. The following is an outline of some of the damages sustained.

*Portsmouth, Dec.* 1.—Wind SW. It has blown a heavy gale of wind the whole day, with heavy rain.

*Portsmouth, Dec.* 10.—Wind NE. The wind got round to the NE this morning and has continued so the whole of the day. Some of the outward-bound have succeeded in getting out: and if it continues favourable, the remainder will be away to-morrow morning at daylight.

Friday morning the road over Soutra-hill, near Edinburgh, lay two feet deep with snow.

*The Liverpool Advertiser* says—"On Friday night, (the 29th ult.) we had a considerable fall of snow, thunder, and lightning. On Sunday (the 1st inst.) it rained almost incessantly; and between two and three o'clock yesterday morning, (Monday, the 2d inst.) it blew most violently. We have not, however, heard of any accidents occasioned by the storm.

*Yarmouth, Dec.* 2.—The Aurora, of Newcastle, went ashore at Horsea last night, in a heavy gale of wind at SW, and is sunk.—Crew saved.

*Plymouth, Dec.* 1.—Wind WSW. Arrived the Lord Exmouth, Barrett, from Quebec, in twenty-eight days, with loss of yards, sails split, bulwarks, and almost every thing upon deck washed overboard, and on entering the Sound one man was lost overboard.

---

A circumstance interesting to the curious in natural history occurred in the neighbourhood of Newcastle, on Sunday last. Some young men while skaiting on

J. G. Clarke's Esq. fish-pond at Fenham, observed a fish embodied in the ice. It was a fine pike, and on being cut out, recovered; and when put into water, dashed through its native element with all its wonted life and energy.—*P. L. Dec.* 24.

### *Prognostic of Rain in Thrace.*

From Walsh's Narrative of a *Journey from Constantinople to England,* 1828.—The day, which was hitherto very fine, was now overcast; and particles of humidity floating in the air, and now and then entering the eye, [*Cirrostratus* in the lower atmosphere,] gave a sure anticipation of *rain,* while the sky [overhead] was as yet very clear and serene. *Mustapha* had, early in the morning, asserted that it would rain before night. I asked him, "Why?" He replied, "*That the wind was changing to the west.*" This is a more sure indication of rain in the east than in our uncertain climate, and recalls the decided expression in the gospel: "When ye see a cloud rise out of the west, ye say, there cometh a shower! And so it is." His anticipation was justified—the rain now fell in torrents.

| 1823. | Wind. | By Clock. | | Temp. | | Med. | Evap | Rain, &c. | Hygr. at 9 a. m. |
|---|---|---|---|---|---|---|---|---|---|
| | | Max. | Min. | Max. | Min. | | | | |
| 1st mo. Jan. 1 | Var. | 29·88 | 29·85 | 37° | 29° | 33· | — | — | |
| 2 | SE | 29·88 | 29·80 | 44 | 36 | 40· | — | 25 | |
| 3 | SE | 29·80 | 29·70 | 44 | 36 | 40· | — | — | |
| 4 | SE | 29·72 | 29·70 | 40 | 37 | 38·5 | — | 26 | |
| 5 | E | 29·85 | 29·65 | 43 | 37 | 40· | — | 25 | |
| 6 | S | 30·10 | 29·85 | 45 | 35 | 40· | — | | |
| 7 | NE | 30·17 | 30·10 | 41 | 32 | 36·5 | — | | |
| 8 | NE | 30·13 | 29·90 | 40 | 20 | 30· | — | | |
| 9 | NE | 29·90 | 29·82 | 32 | 21 | 26·5 | — | | |
| 10 | E | 29·90 | 29·83 | 33 | 23 | 28· | — | | |
| 11 | NE | 29·95 | 29·80 | 31 | 22 | 26·5 | — | | |
| New M. 12 | NE | 29·80 | 29·58 | 30 | 19 | 24·5 | — | | |
| 13 | NE | 29·58 | 29·50 | 30 | 15 | 22·5 | — | — | |
| 14 | E | 29·51 | 29·15 | 31 | 14 | 22·5 | — | | |
| 15 | NE | 29·29 | 29·15 | 31 | 20 | 25·5 | — | — | |
| 16 | NW | 29·32 | 29·28 | 34 | 26 | 30· | — | — | |
| 17 | NW | 29·32 | 29·25 | 34 | 26 | 30· | — | | |
| 18 | NW | 29·42 | 29·30 | 34 | 6 | 20· | — | | |
| 19 | SW | 29·62 | 29·42 | 19 | 4 | 11·5 | — | | |
| 20 | NW | 29·85 | 29·62 | 32 | 19 | 25·5 | — | — | |
| 21 | NE | 29·94 | 29·85 | 33 | 22 | 27·5 | — | | |
| 22 | NE | 29·95 | 29·68 | 28 | 20 | 24· | — | | |
| 23 | E | 29·73 | 29·60 | 27 | 21 | 24· | — | | |
| 24 | NE | 29·85 | 29·70 | 30 | 20 | 25· | — | | |
| 25 | E | 29·73 | 29·60 | 28 | 22 | 25· | — | — | |
| 26 | NE | 29·75 | 29·50 | 31 | 25 | 28· | — | | |
| 27 | SE | 29·50 | 29·38 | 40 | 29 | 34·5 | — | — | |
| 28 | SW | 29·42 | 29·00 | 46 | 42 | 44· | — | 1·05 | |
| 29 | SE | 29·40 | 28·97 | 50 | 39 | 44·5 | — | 4 | |
| 30 | SW | 29·42 | 29·05 | 46 | 40 | 33· | — | — | |
| 31 | E | 29·05 | 28·70 | 41 | 37 | 39· | ·42 | 20 | |
| | | 30·17 | 28·70 | 50 | 4 | | ·42 | 2·05 | |

NOTES.—First Mo. 1. Cloudy. 2. A gentle thaw with some rain. 3. Fine. 4. Cloudy. 5. Rainy. 6—8. Fine. 9. Hoar frost: fine. 10. Cloudy. 11. Fine: afternoon overcast. 12. Bleak. 13. Some snow this morning. 14. Fine. 15. In a heavy snow which commenced this morning, a flock of some hundreds of wild geese passed over us about 11 a. m. steering their course to the east. The snow fell to about four inches depth on the level. 16. Some snow at 10 p. m. 17. Cloudy. 18—20. Much rime on the trees; which, being rather loosely attached, a part fell as it collected, forming a regular snow shower

under the trees: the latter nevertheless retained at length a sufficient quantity of the icy foliage to enable them *to cast a full shadow on the ground* as in summer, which had altogether a singular appearance. 21. Fine. 22—24. Cloudy. 25. It began to snow at three p. m. and the fall continuing through all the night, covered the ground to five or six inches on the level. 26. Cloudy. 27. Some hail at nine a. m. followed by rain, which continued till near four p. m. 28. Rain. 29—31. Cloudy. During the intense cold of the month, much ice accumulated in the Thames, the navigation of which was for some considerable time suspended for the smaller vessels. The feathered tribes exhibited in various ways the appearance of distress usual with them on such occasions, by changing their quarters, and seeking food nearer than usual to the houses and villages.

## RESULTS.

Winds: NE, 11; E, 5; SE, 6; S, 1; SW, 3; NW, 4; Var. 1;

| | | |
|---|---|---|
| Barometer: | Greatest height | 30·17 in. |
| | Least | 28·70 in. |
| | Mean | 29·642 in. |
| Thermometer: | Greatest height | 50° |
| | Least | 4° |
| | Mean | 30·63° |
| | For 30 days, the sun in Capricorn | 29·383° |
| Evaporation | | 0·42 in. |
| Rain | | 2·05 in. |

My neighbour, Daniel Fearon, of Tottenham, has obligingly communicated to me his observations of the *maxima*, and *minima* of the thermometer for this month, made at West Green—the mean result of which turns out 30·20°.

According to a register kept at *Wick*, in Caithness, lat. 58° 28′ N, the cold at 10 p. m. on the 18th and 19th was not below 36° and 37°, with an *easterly* wind; but on the 23d and 24th they had a cold of 16° and 15°, with a north-west wind.—*Philo. Mag. and Journ.* These differences are worthy of more notice than we commonly bestow upon them.

*Glasgow, Jan.* 18.—The London mail of Tuesday, due on Thursday, at half-past ten p. m. did not reach this city till six p. m. yesterday, nineteen hours and a half beyond her usual time. The chief cause of the obstruction was the deepness of the snow on Stainmore; and the retardation of that arrived yesterday, proceeded from the great deepness of the snow from Carlisle to near the Beatock Inn, in which distance the snow lies for miles, from six to seven feet deep

upon the road. The snow is also very deep between the Beatock and Abington. In this distance the snow has also been cut; but its extreme dryness, from the intenseness of the frost, renders it moveable by every breath of wind, and consequently the cuts are soon partially filled up again. The snow, we learn, is also deep in the east and towards the north. The Edinburgh mails have hitherto arrived without much detention. The frost continues very keen, and there is every appearance of a lasting storm, [north-country for *frost.*] The Clyde was completely frozen over, above bridges, during the last night.—*Glasgow Courier.*

*Edinburgh, Jan.* 18.—Since our last the severity of the weather continues unabated, and seems to be generally felt over the country. Much snow has fallen, in consequence of which all the mails have been more or less retarded in their progress. The London mail, due on Thursday night at nine, did not reach the Post-office till five o'clock next morning, and that of last night arrived only at four this morning. During the night the thermometer was as low as 19 deg. and this morning at eight o'clock it stood at 25 deg. The road between Carlisle and Glasgow seems to be shut up. The London mail, due on Thursday evening, had not arrived at three o'clock yesterday.—*P. L.*

The weather in *France* seems to have been far more severe, and the changes more sudden and extraordinary than in this country. A private letter from Paris says, that on Tuesday last, [14th,] Reaumur's thermometer was twelve degrees below the freezing point, [5°. Far.] and the river appeared a field of solid ice; whilst on the very next day the mercury was only one degree below the freezing point, and the river had begun to flow.

*From Lloyd's Books.*—Extract of a letter from Lloyd's agent at Genoa, dated the 13th Jan.—" After about a month of hard blowing weather from N to NE, the wind came from the south last night, and brought into port the Symmetry, Moore, from London: she sailed from Plymouth on the 11th ult. passed Gibraltar on the 21st, was off Ivica on the 25th, and has been beating ever since with hard gales from E to ESE, which at intervals were so heavy, that she could scarce carry any canvas.

*Hamburgh, Jan.* 7.—The frost continues without intermission. The Bee, Hudson, which is lying near Stade, we understand, will begin to discharge to-morrow, when the ice will admit of the goods being brought by sledge. Seven mails will be due to-morrow.

*Falmouth, Jan.* 12.—Wind ENE. Arrived the Dorset, Hart, from Seville, in twenty-seven days.

*Portsmouth, Jan.* 13.—Wind ENE. It blowing northerly this morning, the homeward-bound ships, with a large fleet of colliers, sailed; but (it having backed) the whole brought-up, and remain in safety.

*Jan.* 14.—Wind SE. This morning, at daylight, the wind was at S by W, and moderate.

*Harwich, Jan.* 13.—Wind E by S. The packets which sailed last Wednesday have this day put back, having had strong contrary winds.

*Jan.* 15.—Last night, about ten o'clock, a gale commenced from the SW, and continued during the night with variations to SSE, and E by S, with thick snow.

*Deal, Jan.* 14.—Wind SW.

*Jan.* 15.—It came on to blow early this morning from E by S, accompanied with snow.—The storm is quite abated.

*Plymouth, Jan.* 18.—It is blowing a hard gale at south, with heavy rain.

### *Spontaneous Electrical Discharges, &c.*

*Tottenham,* Second Mo. 4th, 1823.—This morning the sun rose clear, after a succession of dull, misty, or wet days, which we have had since the thaw. The barometer has risen in forty-eight hours about 7·5 in. from 28·47 in. to which it had gone down on the 2nd: the wind is now moderate at SW. In the night I heard a loud *snap,* like the discharge of a small Leyden phial, which I should not have noticed but for other circumstances. Sitting down about half-past one to a mutton-chop, having removed the cover from the hot dish, I heard distinctly the noise of a *spark* at the instant of touching the meat, by accident, with the convex side of a silver spoon, held in the other hand. My daughter, who sat at the table, heard it also: the room was very dry and warm, and the chair on a thick carpet. The noise heard in the night I now imagined might be some electrical discharge among the things in the house; and the whole brought to recollection my having found, at Plaistow, a number of glass jars, &c. upon a change of weather, spontaneously charged; so that they gave out both the noise of small sparks and a train of light, on pouring into them a little quicksilver and moving it over the surface. The quicksilver, I ought to mention, came out of a vessel, in which it had been in contact with a coating of resinous matter; but I do not think this of importance to the effect. One glass, a very little soiled within by use, showed no charge at all.

Whether connected with the present change in the air, or not, we have also the *Zodiacal light,* which at 7 p. m. was sufficiently distinct for my son Joseph, who is not yet twelve years of age, to point out both its place and direction.

The depression of the barometer noticed above, was of great extent. In the *Bibl. Universelle,* Juillet, 1823, we have an account of it by Nell de Bréauté, at *La Chapelle,* near *Dieppe,* and by Flaugergues, at *Viviers;* places separated by almost the whole length of France, from N. to S. I shall revert to it in another part of this work.

With regard to the spontaneous electricity of the clothes and person, I may observe, that I have frequent occasion to observe it, in taking off briskly a flannel waistcoat worn next the skin, while sitting on a feather-bed, in the dark. The sparks and snapping noise are sometimes (especially in dry frost) very lively and amusing, as the hand parts with the sleeve in throwing off the garment.

### *On Malaria; or infection from Marshy Vapours.*

A writer (W. Addison) in the *Philo. Mag.* for November, 1828, seems to be of opinion that the noxious effects of *Malaria* depend on a condensation of vapour, which has risen from marshy or other unwholesome situations, in the form of mist or dew settling upon the skin, and that hence we may explain the very *local* effects of such *miasmata.* This may be true as far as the infection depends on the skin, but there are the *lungs* also to be taken into the account, and a much longer continuance, probably, of action on the blood through this medium, than the conjecture above cited admits, upon the skin, by the other.

# TABLE CCI.

| 1823. | | Wind. | By Clock. | | Temp. | | Med. | Evap | Rain, &c. | Hygr. at 9 a. m. |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Max. | Min. | Max. | Min. | | | | |
| 2nd mo. Feb. | 1 | NE | 28·70 | 28·45 | 40° | 36° | 38· | — | 9 | |
| | 2 | NE | 28·83 | 28·45 | 42 | 39 | 40·5 | — | 15 | |
| | 3 | NE | 29·25 | 28·83 | 45 | 30 | 37·5 | — | 25 | |
| | 4 | Var. | 29·70 | 29·25 | 37 | 27 | 32· | — | | |
| | 5 | E | 29·75 | 29·50 | 34 | 27 | 30·5 | — | | |
| | 6 | E | 29·50 | 29·05 | 34 | 27 | 30·5 | — | — | |
| | 7 | E | 29·45 | 29·05 | 44 | 30 | 37·– | — | 61 | |
| | 8 | W | 29·65 | 29·45 | 44 | 33 | 38·5 | — | | |
| | 9 | W | 29·65 | 29·30 | 44 | 37 | 40·5 | — | 11 | |
| | 10 | SW | 29·48 | 29·00 | 45 | 34 | 39·5 | — | 33 | |
| New M | 11 | SW | 29·35 | 29·24 | 52 | 42 | 47· | — | 3 | |
| | 12 | SW | 29·62 | 29·22 | 50 | 40 | 45· | — | 1 | |
| | 13 | W | 29·62 | 29·28 | 45 | 37 | 41· | — | | |
| | 14 | W | 29·90 | 29·30 | 48 | 33 | 40·5 | — | | |
| | 15 | NW | 30·15 | 29·90 | 40 | 34 | 37·– | — | 12 | |
| | 16 | NE | 30·25 | 30·05 | 40 | 32 | 36· | — | — | |
| | 17 | NE | 30·05 | 29·50 | 38 | 30 | 34· | — | — | |
| | 18 | NW | 29·50 | 28·90 | 45 | 38 | 41·5 | — | 28 | |
| | 19 | W | 29·84 | 29·15 | 47 | 30 | 38·5 | — | | |
| | 20 | NW | 29·90 | 29·50 | 46 | 34 | 40· | — | 1 | |
| | 21 | NW | 29·50 | 29·22 | 49 | 39 | 44· | — | — | |
| | 22 | SW | 29·65 | 29·40 | 46 | 34 | 40· | — | 40 | |
| | 23 | SW | 29·60 | 29·27 | 46 | 41 | 43·5 | — | 43 | |
| | 24 | NW | 29·78 | 29·40 | 48 | 34 | 41· | — | | |
| | 25 | S | 29·40 | 28·98 | 48 | 33 | 40·5 | — | 10 | |
| | 26 | W | 29·05 | 28·89 | 45 | 27 | 36· | — | | |
| | 27 | N | 29·43 | 29·05 | 42 | 31 | 36·5 | — | — | |
| | 28 | NW | 29·87 | 29·43 | 42 | 30 | 36· | ·96 | | |
| | | | 30·25 | 28·45 | 52 | 27 | | ·96 | 2·92 | |

NOTES.—Second Mo. 1—3. Rain: [a most intense fog on the morning of the 3rd.—R. S.] 4, 5. Fine. 6. Snow began about 2 p. m. 7. Rain. 8, 9. Fine. 10—12. Rain. 13. Fine. 14. Rain: some hail in the afternoon. 15. Rain. 16, 17. Cloudy. 18. Fine morning: rain in the evening. 19. Fine day: very wet and stormy night. 20. Very fine: a distinct lunar halo in the evening. 21. Overcast. 22. Rainy. 23. Heavy rain: a violent driving shower of hail, which continued for about one minute, when it abated a little: night very boisterous. 24. Cloudy. 25. Rain: overcast. 26. Cloudy and fine. 27. Fine: a little snow p. m. 28. Fine.

## RESULTS.

Winds: N, 1; NE, 5; E, 3; S, 1; SW, 5; W, 6; NW, 6; Var. 1.

| | | |
|---|---|---|
| Barometer: | Greatest height | 30·25 in. |
| | Least | 28·45 in. |
| | Mean | 29·400 in. |
| Thermometer: | Greatest height | 52° |
| | Least | 27° |
| | Mean | 38·66° |
| | For 29 days, the sun in Aquarius | 36·034° |
| Evaporation | | 0·96 in. |
| Rain | | 2·92 in. |

*The Yorkshire Gazette* says, "On the night of the 4th instant an awful visitation took place at Troutsdale, near Scarborough. Benj. Bravinder, a labouring man, retired to rest with his wife and three children; the daughter nine, and eldest son five years old, in one bed; the youngest son between two and three, with its parents in another. His master, who lived half a mile distant, not being able to discern the cottage the following morning, sent to enquire after this poor family; when the cottage appeared completely overwhelmed by a mass of snow, which the north wind had precipitated from an adjoining hill, behind the house, fifty yards high. On the alarm being given, search was made for the sufferers, who were discovered in bed, under a mass of snow six feet deep. The pressure of the snow had carried away the whole building, except the gable, containing the chimnies, and the five bodies appeared as if asleep. About two hundred people, on the Friday following, were employed in conveying the remains to the church at Brompton, a distance of nearly five miles, on a sledge purposely constructed for containing the five coffins; at which nearly one hundred men were required at a time to drag this vehicle up Troutsdale Banks, through inconceivable mounds and labyrinths of snow, horses being precluded from action.

*Hamburgh, Jan.* 31.—Since last post we have had a decided thaw, with rain; but even with a continuance of it, there is no prospect of the river being navigable for fourteen days.

*Rotterdam, Feb.* 4.—The thaw having continued since my last, and still continuing, with a fresh breeze from SW, I presume that the entrance of the river will be clear from ice towards the latter end of this week.

*Blyth, Feb.* 2.—For the last twenty-four hours it has blown a gale of wind from the east, with snow. It is feared much damage will be done on the east shore.

*Falmouth, Feb.* 3.—Wind NNW.

*Dublin, Feb.* 3.—It blows at present a heavy gale from ENE, with snow.

*Liverpool, Feb.* 9.—Wind W. hard gale, but moderate towards evening.

*Harwich, Feb.* 6.—Wind ESE. It has blown a gale all day from ESE, and continues, with snow.

*Liverpool, Feb.* 11.—Wind W, hard gale.

*Dover, Feb.* 15.—Wind N, moderate breeze and thick weather, with rain.

*Deal, Feb.* 15.—Wind NNW and moderate.

*Falmouth, Feb.* 20.—Wind SW to W, fresh gales, thick and dirty.

*Plymouth, Feb.* 23.—Wind W, blowing a gale.

One day last week, as Mr. Scott, jun. of Clow, was in the fields near Dunning, shooting, he was observed by a farm-servant at a distance, to be wading with difficulty through the snow, which lay in some places to the depth of six feet and upwards. Fearful of some accident, the servant watched Mr. Scott's progress until he observed him disappear amongst the snow, after an ineffectual struggle to regain his footing. The servant instantly obtained assistance, and having repaired to the spot, found Mr. Scott nearly buried among the snow, and almost insensible from the fatigue and cold; upon applying the proper restoratives, however, he was so far recovered, as to be able to reach home that night.

On Wednesday week, while the men were employed in clearing the Arbroath road, they found a boy smothered in a wreath of snow, standing upright, with a pack fastened upon his back.

On Friday week a farm-servant was found dead amongst the snow near Kinneswood. He was on the eve of being married, and had been travelling to a tailor's for a suit of new clothes for that occasion. On Sunday a beggar was found dead near the same place. On the same day two young men, genteelly dressed, are said to have been found dead near the Common of Dunmore. Each of them carried a bundle; but no other particulars concerning them have transpired.

On Sunday last two horses, with saddles and bridles, were discovered, nearly smothered, among the snow, on the toll-road in Glendoven. It is feared their riders have perished.

The son of a farmer, a few miles from Redgorton, set out, during the height of the late storm, at the usual hour, to the school there. About half an hour afterwards, his father, dreading the difficulty the boy would have in finding his way through the drift, followed him, tracked his path, and, at some distance from home, found the lifeless body of his child.

*The Edinburgh Observer* says, "Two shepherds, with their flocks of about two hundred sheep, have perished in the snow, near the bridge of Dye."

On Tuesday a man was found dead in the snow among the Ochil Hills. There was but very little depth of snow where he was found, as it was upon a height, where it is supposed he sat down and expired, from previous fatigue in traversing the deeper parts, and from the severity of the weather.

During the late storm, a wreath of snow, from ten to fifteen yards in length, accumulated on the highway, near Dumblane, to the depth of about seventeen feet. The men who were employed in clearing the road, cut an arch through the wreath, of such dimensions as allowed the bleachers' and carriers' carts to pass without interruption.

The late storm, for a time, stopped all the mills on the river North Esk. We understand its effects are also likely to make a change in the bed of that river, and that it is likely to join the sea more to the south.

The St. Andrew's salmon fishing company anticipate a more successful season than the last. They have stored a large quantity of ice, in order to enable them to forward their fish to the London or Edinburgh markets; and are making preparations for a vigorous commencement as soon as the weather permits.—*P. L. Feb.* 24.

*Yarmouth, Feb.* 24.—It blew a gale last night from WSW to NW. Several vessels are coming up with loss of anchors and cables. Two p. m.—Wind NW, blowing hard.

*Deal, Feb.* 24.—Wind WNW.

*Liverpool, Feb.* 24.—The wind last night blew a heavy gale from the westward, and has continued to this evening with very little abatement.

*Liverpool, Feb.* 25.—The wind this morning was from the S by E, but at high water it came round again from the westward, with a fresh breeze, and continues with heavy squalls.

*Bremen, Feb.* 28.—Our river is clear of ice, and several vessels have arrived from Bordeaux and the Baltic.

The ice accumulated at the Broomielaw, Glasgow, to such an extent on Wednesday week, that the water rose from four to six feet higher at the head, than it was at the foot of the quay. At a quarter past nine in the evening, the mass of ice and water burst with a tremendous crash. The sloops, with one exception, stood out the shock; but warps, hawsers, cables, chains, timber heads, and palls of the steam-boats gave way in every direction. A dreadful scene of confusion and alarm followed. Ten steam-boats were forced from their moorings and carried down the river. They had been previously secured with the greatest care. The Waterloo was moored with a nine-inch hawser, a four-inch warp, and besides had out one of her bower anchors with a forty fathom chain, yet the whole gave way. The steam-boats have all been more or less injured.

### *Meteor seen at Plaistow,* 1806.

The following is the substance of a note which I gave to the *Askesian Society:* the phenomenon was of too early a date to come into its place in this work. "Seventh Mo. 17.—A large meteor, at about 9 p. m. The state of the air for two days before had been very electrical. Large *Nimbi* in the sky, with haze above, and streaks like an aurora at sunset the evening before. There were thundershowers to the E and W on the 17th; but no explosion here, nor much rain. Wind W, with an easterly current above, and clouds in both. Barometer 29·55 inches. The elevation of this *bolis* was not very great above the horizon: the motion was from E by S to W. It was out of sight in about a quarter of a minute, *the apparent magnitude equal to that of the moon at full:* the following attenuated limb was variegated with prismatic colours, and a pretty long train followed it.

### *From a friend at Amsterdam.*

"Endly [*endlik,* at length] came this severe winter, which has been such as I do not remember any one like it; though the years 1782, 1788, 1795, and particularly 1798, were already reckoned extraordinary. On the 25th, 26th, 27th, and part of the 28th of last month, [he dates on the 10th of *Second Mo.*] we had the thermometer in the day time always below—4 Fahrenheit.

"The want which has affected the greatest part of the inhabitants has been that of *water,* which had become exceeding scarce already, during the summer, on account of the drought. The rains, which are still falling, have *endly* [why not make this an English word?] allayed this evil, which threatens very bad consequences, as many people were in danger of drinking very bad water, by melting the ice of the canals."—J. M.

| 1823. | Wind. | By Clock. Max. | By Clock. Min. | Temp. Max. | Temp. Min. | Med. | Evap | Hygr. at 9 a. m. | Rain, &c. |
|---|---|---|---|---|---|---|---|---|---|
| 3d mo. Mar. 1 | NW | 30·00 | 29·90 | 45° | 31° | 38· | — | | |
| 2 | W | 29·95 | 29·50 | 48 | 30 | 39· | — | | 4 |
| 3 | W | 29·50 | 29·15 | 51 | 38 | 44·5 | — | | 4 |
| 4 | NW | 29·40 | 29·18 | 48 | 37 | 42·5 | — | | |
| 5 | NW | 29·73 | 29·40 | 45 | 33 | 39· | — | | |
| 6 | NW | 29·74 | 29·30 | 40 | 24 | 32· | — | | |
| 7 | SE | 29·30 | 28·78 | 39 | 31 | 35· | — | | — |
| 8 | NW | 29·00 | 28·80 | 43 | 30 | 36·5 | — | | |
| 9 | N | 29·67 | 29·00 | 44 | 26 | 35· | — | | |
| 10 | SE | 29·66 | 29·45 | 44 | 31 | 37·5 | — | | 26 |
| 11 | NW | 30·05 | 29·66 | 48 | 32 | 40· | — | | |
| New M. 12 | NW | 30·23 | 30·06 | 48 | 30 | 39· | — | | |
| 13 | SW | 30·20 | 30·16 | 52 | 32 | 42· | — | | |
| 14 | SW | 30·40 | 30·20 | 52 | 38 | 45· | ·95 | | 6 |
| 15 | N | 30·45 | 30·39 | 50 | 30 | 40· | — | | |
| 16 | N | 30·38 | 30·07 | 48 | 32 | 40· | — | | 6 |
| 17 | NW | 30·07 | 29·69 | 52 | 38 | 45· | — | | — |
| 18 | NW | 29·69 | 29·48 | 50 | 30 | 40· | — | | 16 |
| 19 | NW | 29·91 | 29·69 | 40 | 28 | 34· | — | | — |
| 20 | SW | 29·60 | 29·15 | 50 | 36 | 43· | — | | 40 |
| 21 | SW | 29·15 | 28·90 | 52 | 40 | 46· | — | | 7 |
| 22 | SW | 29·60 | 29·00 | 55 | 40 | 47·5 | — | | 1 |
| 23 | NW | 30·17 | 29·60 | 48 | 35 | 41·5 | — | | — |
| 24 | E | 30·26 | 30·17 | 55 | 33 | 44· | — | | |
| 25 | E | 30·23 | 30·02 | 46 | 35 | 40·5 | — | | |
| 26 | NE | 30·02 | 29·95 | 44 | 39 | 41·5 | — | | |
| 27 | N | 29·95 | 29·92 | 44 | 32 | 38· | — | | |
| 28 | E | 30·00 | 29·95 | 52 | 38 | 45· | — | | |
| 29 | E | 30·00 | 29·91 | 51 | 39 | 45· | — | | |
| 30 | E | 30·07 | 29·83 | 63 | 38 | 50·5 | — | | 7 |
| 31 | NW | 30·10 | 30·00 | 58 | 47 | 52·5 | ·80 | | |
| | | 30·45 | 28·78 | 63 | 24 | | 1·75 | | 1·17 |

Notes.—Third Mo. 1. Fine. 2. Cloudy. 3. Drizzling rain: a furious gale of wind from the NW all night. 4. The wind continued to blow with great violence all day. 5. Fine. 6. Cloudy: bleak. 7. Snowy. 8. Cloudy. 9. Fine. 10. Rain. 11, 12. Fine. 13—15. Cloudy. 16. Fine. 17. Cloudy. 18. Drizzly. 19. Snowy morning: very cold wind NE in the night. 20. Snow in the morning: afternoon rainy: a lunar halo in the evening. 21. Drizzly. 22. Overcast. 23—26. Cloudy. 27. Cloudy: night foggy. 28. Cloudy and fine. 29. Cloudy. 30, 31. Fine.

## RESULTS.

Winds: N, 4; NE, 1; E, 5; SE, 2; SW, 5; W, 2; NW, 12.

| | | |
|---|---|---|
| Barometer: | Greatest height | 30·45 in. |
| | Least | 28·78 in. |
| | Mean | 29·754 in. |
| Thermometer: | Greatest height | 63° |
| | Least | 24° |
| | Mean | 41·26° |
| | For 30 days, the sun in Pisces | 40·81° |
| Evaporation | | 1·75 in. |
| Rain | | 1·17 in. |

*Electrical discharge through a river.*

On Wednesday two of the Lords of the Admiralty, attended by the Comptroller of the Navy, and Sir H. Davy, Dr. Woollaston, &c. attended at the Navy Office, to witness an experiment by Mr. Harris, of Plymouth. A small long-boat, fitted with a mast, was moored off Somerset House, and a small boat stationed at some distance with a loaded howitzer. The object of the experiment was to prove, that electric fluid, discharged from an electrifying battery, and conducted by a *wired rope* affixed to the top of the mast, would pass down the mast, through the magazine, and into the water, without doing any injury in its passage either to the magazine or mast. The electric fluid, it was then expected, would discharge the howitzer, the water acting as a conductor, without there being any communication between the vessel and the boat, and the communication being then continued on the negative side, along another wired rope, would return to a window in the room from which it had started, and fire a small quantity of powder. The result was highly gratifying, it being conclusive as to its infallibility, and the ingenious inventor, no doubt, received much pleasure from the experiment. The object of the inventor is to preserve ships from being struck by lightning at sea, many of which, it is supposed, have gone to the bottom in consequence of such accidents.—*Morning Chronicle, 17th March.*

[The passage of an efficient electric discharge through a river was verified many years ago by *Dr. Franklin;* who, when out with a party of friends, had a turkey killed for dinner, by a discharge passed from bank to bank, through the river Schuylkill. The only thing, here, that seems original, is the wired rope, to serve as a conductor; which would however be in some danger of proving inadequate to the taking off a very heavy stroke, from the melting and dispersion of the iron.]

| 1823. | | Wind. | By Clock. | | Temp. | | Med. | Evap | Hygr. at 9 a. m. | Rain, &c. |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Max. | Min. | Max. | Min. | | | | |
| 4 mo. April | 1 | SW | 30·00 | 29·60 | 66° | 49° | 57·5 | — | | |
| | 2 | SW | 29·70 | 29·57 | 56 | 39 | 47·5 | — | | 2 |
| | 3 | W | 29·70 | 29·26 | 52 | 44 | 48· | — | | 15 |
| | 4 | NW | 29·30 | 28·95 | 54 | 43 | 48·5 | — | | 22 |
| | 5 | NW | 29·10 | 28·90 | 55 | 39 | 47· | — | | 35 |
| | 6 | NW | 29·63 | 29·10 | 47 | 40 | 43·5 | — | | 18 |
| | 7 | N | 29·83 | 29·63 | 53 | 30 | 41·5 | — | | 7 |
| | 8 | NE | 29·80 | 29·72 | 51 | 38 | 44·5 | — | | |
| | 9 | NE | 30·05 | 29·72 | 56 | 31 | 43·5 | — | | |
| | 10 | E | 30·20 | 30·05 | 55 | 29 | 42·– | — | | |
| New M. | 11 | E | 30·20 | 30·15 | 56 | 25 | 40·5 | ·81 | | |
| | 12 | NE | 30·15 | 30·06 | 46 | 30 | 38· | — | | |
| | 13 | NE | 30·07 | 30·00 | 50 | 39 | 44·5 | — | | |
| | 14 | E | 30·30 | 30·10 | 52 | 39 | 45·5 | — | | — |
| | 15 | Var. | 30·32 | 30·05 | 56 | 35 | 45·5 | — | | |
| | 16 | W | 30·05 | 29·90 | 56 | 46 | 52· | — | | 2 |
| | 17 | NW | 29·90 | 29·50 | 64 | 40 | 52· | — | | |
| | 18 | NW | 29·50 | 29·30 | 55 | 33 | 44· | — | | — |
| | 19 | NW | 29·80 | 29·40 | 50 | 28 | 39· | — | | 5 |
| | 20 | NW | 29·97 | 29·80 | 50 | 35 | 42·5 | — | | |
| | 21 | SW | 29·85 | 29·70 | 50 | 28 | 39· | ·82 | | |
| | 22 | E | 29·70 | 29·25 | 60 | 39 | 49·5 | — | | |
| | 23 | E | 29·35 | 29·13 | 60 | 42 | 51· | — | | 24 |
| | 24 | NE | 29·82 | 29·35 | 55 | 30 | 42·5 | — | | |
| | 25 | SW | 29·81 | 29·60 | 55 | 44 | 49·5 | — | | 3 |
| | 26 | SE | 29·90 | 29·60 | 53 | 36 | 44·5 | — | | 48 |
| | 27 | NE | 30·12 | 29·70 | 54 | 27 | 40·5 | — | | |
| | 28 | NW | 30·22 | 30·03 | 55 | 34 | 49·5 | — | | |
| | 29 | NE | 30·40 | 30·22 | 60 | 30 | 45· | — | | |
| | 30 | SE | 30·40 | 30·37 | 65 | 30 | 47·5 | ·72 | | |
| | | | 30·40 | 28·90 | 66 | 27 | | 2·35 | | 1·81 |

Notes.—Fourth Mo. 1. Fine. 2. Cloudy: windy. 3. Morning fine: rain in the evening. 4, 5. Rainy. 6. Cloudy. 7. Showery. 8. Cloudy. 9—11. Fine. 12, 13. Cloudy. 14. Cloudy: a few drops of rain. 15, 16. Cloudy. 17. Fine. 18. Fine: a shower of hail about noon. 19. Fine: a shower of hail about four p. m. 20. Fine: wind cold. 21, 22. Fine. 23. Cloudy. 24, 25. Fine. 26. Rainy. 27. Fine. 28. White frost in the morning. 29. Fine. 30. White frost, with fog in the morning.

## RESULTS.

Winds: N, 1; NE, 7; E, 5; SE, 2; SW, 4; W, 2; NW, 8; Var. 1.

| | | |
|---|---|---|
| Barometer: | Greatest height | 30·40 in. |
| | Least | 28·90 in. |
| | Mean | 29·781 in. |
| Thermometer: | Greatest height | 66° |
| | Least | 27° |
| | Mean | 45·48° |
| | For 30 days, the sun in Aries | 45·20° |
| Evaporation | | 2·35 in. |
| Rain | | 1·81 in. |

*Deal, April* 4.—Wind WSW. The wind this morning was inclinable to the northward. Soon after it backed again to the SW, and blowed fresh, with thick weather.

*April* 24.—Wind blowing strong from the NE.

Islands of Ice.—*The New York Advertiser* says, "On the 27th of April, in lat. 42°. 30′., long. 59°. the ship Euphrates, which arrived at New York on Sunday last, fell in with islands of ice, and continued passing them till next morning—counted twenty-seven large ones, and a great number of smaller bodies. Passed within a cable's length of five of the largest. To one of them was attached fragments of rocks, small stones, and greyish earth. They appeared about sixty feet high, and about half a mile in length; some of them with broken cragged tops, and others level. They quite becalmed the ship; numerous sea fowls, a small kind of duck, and several seals were seen about them."

### *Strata beneath the Laboratory.*

In the present month, myself and partners concluded an experiment for obtaining water, by boring under the premises we occupy at Stratford; and as it may be satisfactory to the reader, to know the *strata* that lie under the place of observation, I shall here give some account of the operation. The structure differs considerably *under the course of the river Lea* from that of the country on each side. Instead of the London clay, we passed through beds of gravelly and sandy alluvial matter, and what is called *plastic clay,* in which we constantly had ferruginous water; whereas the London clay is compact and dry. At length we struck the *chalk* at a hundred and thirty feet depth, drove down a cast-iron pipe through the intervening strata quite into it, to exclude the upper springs, and proceeded with the boring. Into the chalk we penetrated sixty-five feet, and obtained a moderate supply of soft water, still charged with iron, held in solution by carbonic acid; which it lets fall in an ochrey deposite, on exposure to the air. The boring was four months in hand—five weeks being spent in getting through a single solid bed of *flint,* about a foot thick. The water rose to within about three feet of the surface—L. H.

| 1823. | | Wind. | By Clock. | | Temp. | | Med. | Evap | Hygr. at 9 a. m. | Rain, &c. |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Max. | Min. | Max. | Min. | | | | |
| 5 mo. May | 1 | Var. | 30·35 | 30·30 | 72° | 35° | 53·5 | — | | |
| | 2 | NE | 30·34 | 30·25 | 74 | 38 | 56· | — | | |
| | 3 | E | 30·40 | 30·24 | 70 | 37 | 53·5 | — | | |
| | 4 | E | 30·40 | 30·15 | 55 | 33 | 44· | — | | |
| | 5 | S | 30·15 | 29·87 | 71 | 38 | 54·5 | — | | |
| | 6 | E | 29·87 | 29·72 | 76 | 48 | 64· | ·89 | | |
| | 7 | SW | 29·80 | 29·69 | 78 | 50 | 64· | — | | |
| | 8 | SW | 29·69 | 29·50 | 65 | 43 | 54· | — | | 3 |
| | 9 | SW | 29·77 | 29·51 | 61 | 51 | 56· | — | | |
| New M. | 10 | SW | 29·72 | 29·50 | 65 | 51 | 58· | — | | 27 |
| | 11 | SW | 29·53 | 29·45 | 66 | 52 | 59· | — | | — |
| | 12 | SW | 29·57 | 29·48 | 63 | 48 | 55·5 | ·83 | | 2 |
| | 13 | SW | 29·65 | 29·55 | 65 | 40 | 52·5 | — | | |
| | 14 | W | 29·98 | 29·65 | 63 | 44 | 53·5 | — | | 2 |
| | 15 | NW | 30·10 | 29·98 | 67 | 49 | 58· | — | | |
| | 16 | SW | 30·00 | 29·77 | 63 | 43 | 53· | — | | 2 |
| | 17 | W | 30·13 | 29·77 | 64 | 34 | 49· | — | | 10 |
| | 18 | SW | 30·11 | 29·75 | 67 | 41 | 54· | ·98 | | |
| | 19 | E | 29·75 | 29·58 | 67 | 50 | 58·5 | — | | |
| | 20 | S | 29·59 | 29·35 | 70 | 52 | 56· | — | | 12 |
| | 21 | W | 29·60 | 29·55 | 67 | 52 | 59·5 | — | | 2 |
| | 22 | SW | 29·74 | 29·60 | 62 | 50 | 56· | — | | 7 |
| | 23 | SW | 29·85 | 29·74 | 64 | 44 | 54· | — | | 7 |
| | 24 | SW | 29·81 | 29·56 | 67 | 51 | 59· | — | | — |
| | 25 | E | 29·65 | 29·57 | 68 | 46 | 57· | — | | 2 |
| | 26 | S | 29·90 | 29·65 | 72 | 40 | 56· | ·89 | | 22 |
| | 27 | NE | 29·97 | 29·90 | 71 | 44 | 57·5 | — | | |
| | 28 | NE | 30·10 | 29·96 | 77 | 42 | 59·5 | — | | |
| | 29 | N | 30·13 | 30·06 | 72 | 41 | 56·5 | — | | |
| | 30 | SE | 30·17 | 30·02 | 78 | 43 | 55·5 | — | | |
| | 31 | E | 30·17 | 30·10 | 77 | 51 | 64· | ·82 | | |
| | | | 30·40 | 29·35 | 78 | 33 | | 4·41 | | ·98 |

Notes.—Fifth Mo. 1, 2, 3. Fine. 4. Fine: very cold wind. 5, 6. Fine. 7. Fine, with occasional clouds. 8. Cloudy morning: cold wind. 9. Cloudy. 10. Cloudy: rainy evening. 11. Cloudy: wind boisterous. 12. Cloudy. 13—15. Fine. 16. Cloudy: some rain at nine a. m. 17. Showery. 18—21. Fine. 22—26. Showery. 27—31. Fine.

## RESULTS.

Winds: N, 1; NE, 3; E, 6; SE, 1; S, 3; SW, 12; W, 3; NW, 1; Var. 1.

| | | |
|---|---|---|
| Barometer: | Greatest height | 30·40 in. |
| | Least | 29·35 in. |
| | Mean | 29·853 in. |
| Thermometer: | Greatest height | 78° |
| | Least | 33° |
| | Mean | 56·42° |
| | For 31 days, the sun in Taurus | 52·338° |
| Evaporation | | 4·41 in. |
| Rain | | 0·98 in. |

*Magnetism of the Solar Rays, as found in Milton.*

"The golden sun, in splendour likest heaven,
Allur'd his eye; * * * *
* * where the great luminary,
(Aloof the vulgar constellations thick,
That from his lordly eye keep distance due,)
Dispenses light from far. They, as they move
Their starry dance, in numbers that compute
Days, months, and years, towards his all-cheering lamp,
Turn swift their various motions, *or are turn'd*
*By his magnetic beam*, that gently warms
The universe, and to each inward part,
With gentle penetration, though unseen,
*Shoots invisible virtue even to the deep.*"—PAR. LOST, Book iii.

What shall we say to this fine conception of our great poet, now that the philosophers have ascertained, by direct experiment, that the violet ray of the solar spectrum is actually capable of rendering a needle magnetic which has never been touched by the loadstone, or by an artificial magnet? He seems to have had a thought (natural enough in the then state of science) that the earth revolved from west to east, in consequence of a peculiar attraction exercised on its substance by the sunbeams.—1821.

| 1823. | | Wind. | By Clock. | | Temp. | | Med. | Evap | Hygr. at 9 a. m. | Rain, &c. |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Max. | Min. | Max. | Min. | | | | |
| 6 mo. June | 1 | NE | 30·10 | 29·75 | 78° | 55° | 66·5 | — | | |
| | 2 | SW | 29·75 | 29·44 | 77 | 46 | 61·5 | — | | 35 |
| | 3 | NW | 29·54 | 29·30 | 65 | 43 | 54· | — | | 1 |
| | 4 | SW | 29·42 | 29·30 | 61 | 43 | 52· | — | | 17 |
| | 5 | SW | 29·85 | 29·43 | 66 | 38 | 52· | — | | 13 |
| | 6 | N | 30·05 | 29·85 | 70 | 41 | 55·5 | ·85 | | |
| | 7 | W | 30·00 | 29·85 | 69 | 50 | 59·5 | — | | 1 |
| New M. | 8 | W | 29·89 | 29·84 | 68 | 50 | 59· | — | | |
| | 9 | NW | 29·91 | 29·85 | 66 | 43 | 54·5 | — | | |
| | 10 | NW | 30 03 | 29·90 | 64 | 42 | 53· | — | | |
| | 11 | NE | 30·02 | 29·90 | 70 | 39 | 54·5 | ·67 | | |
| | 12 | NE | 29·90 | 29·70 | 73 | 42 | 57·5 | — | | |
| | 13 | N | 29·85 | 29·77 | 79 | 53 | 66· | — | | |
| | 14 | N | 30·04 | 29·83 | 76 | 52 | 64· | — | | |
| | 15 | NE | 30·27 | 30·03 | 72 | 38 | 55· | — | | |
| | 16 | NE | 30·28 | 30·21 | 71 | 41 | 56· | ·71 | | |
| | 17 | NW | 30·21 | 30·10 | 74 | 44 | 59· | — | | |
| | 18 | N | 30·12 | 30·07 | 60 | 43 | 51·5 | — | | |
| | 19 | NE | 30·07 | 29·93 | 71 | 48 | 59·5 | — | | |
| | 20 | NE | 30·04 | 29·90 | 72 | 50 | 56· | — | | |
| | 21 | N | 30·10 | 30·04 | 62 | 46 | 54· | — | | |
| | 22 | N | 30·10 | 30·00 | 55 | 41 | 48· | — | | |
| | 23 | NW | 30·00 | 29·82 | 67 | 40 | 53·5 | ·87 | | |
| | 24 | NW | 29·82 | 29·60 | 70 | 43 | 56·5 | — | | |
| | 25 | SW | 29·60 | 29·50 | 72 | 46 | 59· | — | | 8 |
| | 26 | Var. | 29·50 | 29·14 | 70 | 52 | 61·– | — | | 15 |
| | 27 | Var. | 29·24 | 29·14 | 71 | 50 | 60·5 | — | | 64 |
| | 28 | SW | 29·68 | 29·24 | 67 | 50 | 58·5 | — | | 5 |
| | 29 | SW | 29·90 | 29·68 | 71 | 46 | 58·5 | — | | 29 |
| | 30 | W | 29·89 | 29·80 | 72 | 44 | 58· | ·90 | | |
| | | | 30·28 | 29·14 | 79 | 38 | | 4·00 | | 1·88 |

Notes.—Sixth Mo. 1. Fine. 2. Cloudy: rain in the evening. 3. Cloudy: a shower of hail in the afternoon. 4. Showery. 5. Showery: a heavy storm of thunder about three p. m. with large hail, and very vivid lightning. 6—13. Fine. 14. Cloudy, and fine at intervals. 15—17. Fine. 18. Fine: overcast. 19, 20. Fine. 21, 22. Overcast. 23. Fine. 24. Overcast. 25. Cloudy: some showers in the night. 26. Cloudy. 27. Showery till about five o'clock p. m. when there was a very heavy storm of thunder, and rain; and hail of considerable size: the lightning vivid, and thunder

near and frequent, the wind going round to the W. 28. Cloudy and fine. 29. Showery: a violent storm of hail about three p. m. with thunder, followed by rain: the hail as large as peas. 30. Calm: overcast.

## RESULTS.

Winds: N, 5; NE, 7; SW, 6; W, 3; NW, 6; Var. 2.

| | | |
|---|---|---|
| Barometer: | Greatest height | 30·28 in. |
| | Least | 29·14 in. |
| | Mean | 29·818 in. |
| Thermometer: | Greatest height | 79° |
| | Least | 38° |
| | Mean | 57·30° |
| | For 31 days, the sun in Gemini | 57·133° |
| Evaporation | | 4·00 in. |
| Rain | | 1·88 in. |

From a register kept at *Wick*, in the extreme North of Scotland, (quoted before under table 200,) I find that the northerly winds, which prevailed through the greater part of this month, must have traversed the whole island, (a circumstance which probably happens only when they are of some continuance,) the register noting "Fine, clear, and dry days," from the 17th to the 23d inclusive, with the wind north. This weather appears to have broken up on the 24th, with a *south* wind, *a day before* the change at Stratford: there fell at *Wick*, hail-showers on the 25th; and on the 27th they had hail, with thunder, at Stratford. The days on which there fell rain at *Wick*, were three in the beginning, and four at the end, besides the 7th, 9th, 14th, and 15th, which the reader will compare with the tables.

# TABLE CCVI.

| 1823. | | Wind. | By Clock. | | Temp. | | Med. | Evap | Hygr. at 9 a. m. | Rain, &c. |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Max. | Min. | Max. | Min. | | | | |
| 7 mo. July | 1 | Var. | 29·95 | 29·89 | 74° | 52° | 63· | — | | 25 |
| | 2 | NW | 30·03 | 29·94 | 75 | 47 | 61· | — | | — |
| | 3 | N | 30·07 | 29·91 | 78 | 49 | 63·5 | — | | — |
| | 4 | E | 29·92 | 29·88 | 65 | 49 | 57· | — | | 10 |
| | 5 | W | 29·88 | 29·60 | 74 | 60 | 67· | — | | |
| | 6 | W | 29·62 | 29·60 | 71 | 50 | 60·5 | — | | |
| | 7 | W | 29·61 | 29·60 | 68 | 49 | 58·5 | — | | 20 |
| New M. | 8 | NW | 29·90 | 29·60 | 66 | 44 | 55·0 | ·85 | | 20 |
| | 9 | NW | 30·00 | 29·90 | 74 | 47 | 60·5 | — | | |
| | 10 | SW | 29·90 | 29·60 | 74 | 49 | 61·5 | — | | |
| | 11 | SW | 29·65 | 29·55 | 74 | 56 | 65·– | — | | |
| | 12 | SW | 29·72 | 29·65 | 70 | 58 | 64· | ·75 | | |
| | 13 | S | 29·67 | 29·53 | 73 | 54 | 63·5 | — | | |
| | 14 | SW | 29·75 | 29·60 | 72 | 50 | 61· | — | | 16 |
| | 15 | SW | 29·60 | 29·50 | 70 | 50 | 60· | — | | 20 |
| | 16 | SW | 29·84 | 29·50 | 66 | 48 | 57· | — | | 23 |
| | 17 | NW | 29·84 | 29·70 | 66 | 56 | 61· | — | | 5 |
| | 18 | SE | 29·90 | 29·89 | 66 | 54 | 60· | — | | 6 |
| | 19 | SW | 29·95 | 29·82 | 71 | 60 | 67·5 | ·76 | | 4 |
| | 20 | W | 29·82 | 29·50 | 78 | 57 | 67·5 | — | | |
| | 21 | SW | 29·80 | 29·47 | 71 | 49 | 60· | — | | 4 |
| | 22 | NW | 29·92 | 29·45 | 71 | 54 | 62·5 | — | | — |
| | 23 | SW | 29·70 | 29·38 | 71 | 53 | 62· | — | | 21 |
| | 24 | NW | 29·80 | 29·70 | 68 | 46 | 57· | — | | — |
| | 25 | SW | 29·70 | 29·50 | 68 | 50 | 59· | ·84 | | 15 |
| | 26 | NW | 29·85 | 29·60 | 65 | 50 | 57·5 | — | | 40 |
| | 27 | NW | 29·87 | 29·77 | 68 | 53 | 60·5 | — | | 8 |
| | 28 | SW | 29·80 | 29·74 | 68 | 53 | 60·5 | — | | 4 |
| | 29 | SW | 29·75 | 29·71 | 69 | 47 | 58· | — | | |
| | 30 | W | 29·91 | 29·72 | 70 | 54 | 62· | — | | 2 |
| | 31 | W | 30·08 | 29·92 | 74 | 50 | 62· | ·62 | | |
| | | | 30·08 | 29·38 | 78 | 44 | 61·06 | 3·82 | | 2·43 |

Notes.—Seventh Mo. 1. Showery. 2. Cloudy, and fine. 3 Fine. 4. Showery. 5. Cloudy. 6. Fine: occasional clouds. 7. Showery. 8. A very heavy shower of rain about half-past three p. m. attended with thunder. 9, 10. Fine. 11. Fine: cloudy at intervals. 12. Cloudy and fine. 13. Rainy. 14. Cloudy: slight showers. 15. Fine morning: showery afternoon. 16. Rainy. 17. Fine. 18, 19. Showery. 20. Fine. 21. Showers. 22. Cloudy. 23. Showery day: heavy rain with thunder about six p. m.: some thunder-showers

afterwards, with lightning. 24. Cloudy. 25. Showery. 26. Rainy. 27. Cloudy and fine. 28. Cloudy. 29. Overcast. 30, 31. Fine.

## RESULTS.

Winds: N, 1; E, 1; SE, 1; S, 1; SW, 12; W, 6; NW, 8; Var. 1.

| | | |
|---|---|---|
| Barometer: | Greatest height | 30·08 in. |
| | Least | 29·38 in. |
| | Mean | 29·849 in. |
| Thermometer: | Greatest height | 78° |
| | Least | 44° |
| | Mean | 61·06° |
| | For 30 days, the sun in Cancer | 59·983° |
| Evaporation | | 3·82 in. |
| Rain | | 2·43 in. |

Extract of a letter received by the author, from his friend and relative, *Lewis Weston Dillwyn*, dated in 1803.

"It seems to me that thunder is less frequent in proportion as the surface of the earth is more metallic. It occurs very rarely about *Swansea*, the country about which abounds with iron-stone, and in Cornwall; but it appears to be more frequent in Devonshire, though there much less so than further east; and this country is about proportionally less metallic. I found also that in the south of Devon, thunder is more frequent and violent than in the north. In the former, I believe, no metal occurs; but copper and tin are worked in the north-west, and iron-stone occurs in many parts of the north, and is worked in some places. * * * It appears to me that thunder is most frequent, and, indeed, most violent in *chalky* countries."

The above opinion deserves further investigation. I may observe, however, that it is not merely the contents, but the *forms* of the land that may decide the question of the exploding or passing over of a charged cloud: the rounded forms of chalk downs will carry off little by attraction, rocks and woods much, of the electricity.

| 1823. | | Wind. | By Clock. | | Temp. | | Med. | Evap | Hygr. at 9 a. m. | Rain, &c. |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Max. | Min. | Max. | Min. | | | | |
| 8 mo. Aug | 1 | SW | 30·04 | 29·90 | 68° | 55° | 61·5 | — | | — |
| | 2 | SW | 29·90 | 29·70 | 73 | 61 | 67· | — | | |
| | 3 | SW | 29·70 | 29·55 | 68 | 54 | 61· | — | | 38 |
| | 4 | W | 29·77 | 29·66 | 72 | 52 | 62· | — | | |
| | 5 | NW | 29·74 | 29·70 | 68 | 52 | 60· | — | | — |
| New M. | 6 | NW | 29·80 | 29·70 | 69 | 44 | 56·5 | — | | — |
| | 7 | W | 29·78 | 29·70 | 67 | 52 | 59·5 | — | | 8 |
| | 8 | W | 29·92 | 29·70 | 72 | 47 | 55·– | — | | 4 |
| | 9 | NW | 30·10 | 29·92 | 65 | 45 | 63· | ·94 | | 2 |
| | 10 | SW | 30·02 | 29·97 | 67 | 59 | 67·5 | — | | 10 |
| | 11 | NW | 29·97 | 29·84 | 75 | 60 | 61·5 | — | | — |
| | 12 | SW | 29·84 | 29·60 | 78 | 55 | 67·5 | — | | |
| | 13 | NW | 29·76 | 29·44 | 82 | 57 | 69·5 | — | | — |
| | 14 | W | 29·81 | 29·60 | 65 | 48 | 56·5 | — | | — |
| | 15 | W | 29·62 | 29·33 | 68 | 46 | 57· | — | | — |
| | 16 | SW | 29·83 | 29·33 | 69 | 46 | 57·5 | ·84 | | 15 |
| | 17 | W | 29·89 | 29·80 | 67 | 47 | 57· | — | | — |
| | 18 | SE | 29·80 | 29·73 | 66 | 61 | 63·5 | — | | — |
| | 19 | SW | 29·80 | 29·77 | 68 | 52 | 60· | — | | 5 |
| | 20 | SW | 29·81 | 29·77 | 72 | 47 | 59·5 | — | | — |
| | 21 | NW | 29·88 | 29·62 | 69 | 50 | 59·5 | — | | 19 |
| | 22 | W | 29·68 | 29·52 | 69 | 49 | 59· | — | | 10 |
| | 23 | W | 29·83 | 29·68 | 69 | 59 | 64·5 | — | | 2 |
| | 24 | S | 29·82 | 29·72 | 71 | 56 | 63·5 | — | | 11 |
| | 25 | NW | 29·98 | 29·79 | 82 | 55 | 68·5 | — | | |
| | 26 | NE | 30·10 | 29·98 | 68 | 57 | 62·5 | — | | 55 |
| | 27 | N | 30·18 | 30·10 | 77 | 56 | 66·5 | — | | |
| | 28 | W | 30·15 | 29·92 | 76 | 52 | 64· | ·85 | | |
| | 29 | SW | 29·95 | 29·92 | 76 | 55 | 65·5 | — | | |
| | 30 | NW | 30·18 | 29·94 | 72 | 46 | 59· | — | | 30 |
| | 31 | NW | 30·21 | 30·18 | 76 | 46 | 61· | — | | |
| | | | 30·21 | 29·33 | 82 | 44 | 61·71 | 2·63 | | 2·09 |

NOTES.—Eighth Mo. 1. Overcast. 2. Cloudy. 3. Rainy. 4. Fine. 5. Showery. 6. Fine: slight showers. 7. Showery. 8. Showery: fine. 9. Showery. 10. Rainy. 11. Cloudy. 12. Fine. 13. Fine. 14, 15. Cloudy. 16. Showery. 17, 18. Cloudy. 19. Showery. 20. Fine: a slight shower at noon. 21. Cloudy. 22. Rainy. 23. Cloudy. 24. Rainy morning. 25. Fine. 26. *Rainy: some distant thunder at half-past nine a. m.: heavy rain.* 27, 28, 29. Fine. 30. Fine morning: afternoon rainy. 31. Fine.

## RESULTS.

Winds: N, 1; NE, 1; SE, 1; S, 1; SW, 9; W, 9; NW, 9.

| | | |
|---|---|---|
| Barometer: | Greatest height | 30·21 in. |
| | Least | 29·33 in. |
| | Mean | 29·823 in. |
| Thermometer: | Greatest height | 82° |
| | Least | 44° |
| | Mean | 61·71° |
| | For 31 days, the sun in Leo | 60·532° |
| Evaporation | | 2·63 in. |
| Rain | | 2·09 in. |

The Moniteur of the 31st August, quoted in the *Bibl. Universelle* for October 1823, gives an account of the appearance (on the 26th of this month) and effects of a terrible *electrical whirwind* and *spout*, in the canton of *Anet*, Dep. Eure et Loire, France. To the usual column of dark vapour, let down from the clouds, and touching the earth to the breadth of a hundred fathoms, there were joined the most violent lightnings, and hail of the largest diameter. After sweeping over hill and dale for some distance, and uprooting, or breaking six or eight hundred trees in the space of a league, it fell upon the village of *Marchefroy*, and destroyed one half of the houses, overturning every thing from the foundations, and scattering some of the materials to a great distance. Such of the inhabitants as were not in the fields were subjected to the accidents attendant on the ruin of their dwellings, (the time being about 3 p. m.) and of the remainder, several were bruised and wounded by the hail, mixed with stones and other matters, borne along with violence by the blast. The heaviest laden waggons are said to have been broken to pieces, and their loads dispersed—even large wheels being carried two or three hundred paces. The writer (Dr. Foucault) says he saw a waggon lying, almost entire, upon the ruins of a tile-kiln, parts of which had been carried to some distance from the spot. Other villages besides the one mentioned, lying in the course of this storm, suffered damage by it. The approach of the phenomenon was from the SW, and a great and sudden heat preceded it.

An extensive thunder-storm fell upon parts of Sussex, Kent, Essex, and the adjoining counties, on the 25th and 26th. At *Margate*, between twelve and one, on the 26th, the lightning was observed, during the approach of the storm, to fall *in a serpentine form* on the sea. This is not a new observation: the bolt being sometimes *repelled*, goes half way back to the clouds, with a slow movement, and then turns downward.

| 1823. | | Wind. | By Clock. Max. | By Clock. Min. | Temp. Max. | Temp. Min. | Med. | Evap | Hygr. at 9 a. m. | Rain, &c. |
|---|---|---|---|---|---|---|---|---|---|---|
| 9th m. Sept. | 1 | SW | 30·15 | 29·95 | 74° | 50° | 62· | — | | |
| | 2 | SW | 30·02 | 29·95 | 75 | 46 | 60·5 | — | | |
| | 3 | W | 30·12 | 30·02 | 68 | 54 | 61· | — | | |
| New. M. | 4 | W | 30·13 | 30·05 | 77 | 50 | 63·5 | — | | |
| | 5 | NW | 30·14 | 30·05 | 68 | 48 | 58·– | — | | |
| | 6 | NW | 30·20 | 30·08 | 72 | 40 | 56· | ·84 | | |
| | 7 | NE | 30·25 | 30·20 | 68 | 35 | 51·5 | — | | |
| | 8 | NE | 30·22 | 30·15 | 68 | 33 | 50·5 | — | | |
| | 9 | N | 30·19 | 30·15 | 69 | 33 | 51· | — | | |
| | 10 | N | 30·24 | 30·15 | 71 | 41 | 56· | — | | |
| | 11 | E | 30·24 | 30·00 | 71 | 40 | 55·5 | — | | |
| | 12 | E | 30·00 | 29·75 | 76 | 51 | 63·5 | — | | |
| | 13 | S | 29·80 | 29·60 | 77 | 51 | 64· | ·75 | | |
| | 14 | SW | 29·60 | 29·10 | 76 | 63 | 69·5 | — | | 2 |
| | 15 | W | 29·85 | 29·50 | 68 | 48 | 58· | — | | — |
| | 16 | SW | 29·90 | 29·81 | 71 | 52 | 61·5 | — | | — |
| | 17 | SW | 30·34 | 29·90 | 64 | 36 | 50· | — | | 7 |
| | 18 | N | 30·33 | 30·13 | 68 | 34 | 51· | — | | |
| | 19 | NW | 30·13 | 30·05 | 71 | 50 | 60·5 | — | | |
| | 20 | NW | 33·05 | 29·60 | 61 | 40 | 50·5 | — | | |
| | 21 | SW | 29·60 | 29·13 | 60 | 48 | 54·– | ·86 | | 19 |
| | 22 | NW | 29·90 | 29·13 | 68 | 41 | 54·5 | — | | 11 |
| | 23 | NW | 29·90 | 29·80 | 58 | 48 | 53· | — | | 21 |
| | 24 | NW | 29·96 | 29·80 | 73 | 52 | 62·5 | — | | |
| | 25 | W | 29·95 | 29·75 | 61 | 54 | 57·5 | — | | |
| | 26 | W | 29·75 | 29·70 | 66 | 44 | 55·– | — | | |
| | 27 | NW | 29·85 | 29·75 | 66 | 29 | 49·5 | — | | |
| | 28 | NW | 29·98 | 29·85 | 62 | 30 | 46·– | — | | |
| | 29 | N | 29·88 | 29·12 | 64 | 31 | 47·5 | — | | |
| | 30 | N | 29·17 | 28·52 | 55 | 44 | 49·5 | ·90 | | 1·05 |
| | | | 30·34 | 28·52 | 77 | 29 | 56·10 | 3·35 | | 1·65 |

NOTES.—Ninth Month. 1—14. Fine. 15. *A violent storm of hail and rain, accompanied by very vivid lightning, and a few claps of thunder, between three and four a. m.* 16. Fine. 17. Overcast. 18. Fine. 19. Foggy morning. 20. Fine. 21. Rainy. 22. Showery. 23. Fine: night rainy. 24, 25. Cloudy. 26—29. Fine. 30. Very rainy day with strong wind: a vivid flash of lightning, with a loud clap of thunder, between five and six p. m.: a second flash, with thunder, about an hour afterwards.

## RESULTS.

Winds: N, 5; NE, 2; E, 2; S, 1; SW, 6; W, 5; NW, 9.

| | | |
|---|---|---|
| Barometer: | Greatest height | 30·34 in. |
| | Least | 28·52 in. |
| | Mean | 29·908 in. |
| Thermometer: | Greatest height | 77° |
| | Least | 29° |
| | Mean | 56·10° |
| | For the lunar period | 57·172° |
| | For — days, the sun in Virgo | 59·290° |
| Evaporation | | 3·35 in. |
| Rain | | 1·65 in. |

"The governor of Gênes has received from colonel Pagliari, commandant in Savona, a letter of the 18th September, informing him of disasters caused by a water-spout. On the 16th, about five in the morning, it began to rain, and by nine so much had fallen, that two brooks became impassable, and the water covered not only the meadows but the raised mounds upon them. About noon, from a hill situate in the parish of Valeggia, there was seen to issue a terrible whirlwind of black vapour mixed with fire. It took off first the roof of a house a little way on its passage, then proceeding to the opposite hill, called *Magliolo*, it took up to a great height the water from the river, carried away the roofs of two inhabited houses, and advanced along the hill through the district of Quigliano; and after uprooting the largest trees, and destroying the vines, &c. was dissipated near the convent of Capuchins, situate in that village."—*Extrait de la Bibliotheque Universelle*, Octobre, 1823.

The *Bury Gazette* says, On Monday the 15th inst. between three and four in the morning, a most severe tempest visited Harwich—a succession of the most vivid and brilliant flashes, with grand and awful peals of thunder. On the 16th, at seven in the morning, the thermometer stood at 32°, and at twelve the same day 68°.—Temperature of the sea 64°.

A letter from *Stonehaven*, of the same date, says:—A more tremendous rain than we had here for a few hours this morning, is not remembered in this quarter. The *Cowie*, a stream chiefly dependent on mountain-rivulets, overleaped its banks, swelling to a majestic river, and occupying for its bed fields of oats, barley, and potatoes, to the breadth of several hundred yards. One field of fine barley in stook was swept into the sea; and much fine grain uncut, now imbedded in sand, must be totally destroyed.—*Pub. Ledger.*

| 1823. | Wind. | By Clock. | | Temp. | | Med. | Evap | Hygr. at 9 a. m. | Rain, &c. |
|---|---|---|---|---|---|---|---|---|---|
| | | Max. | Min. | Max. | Min. | | | | |
| 8 mo. Oct. 1 | Var. | 29·38 | 29·60 | 60° | 30° | 45· | — | | 25 |
| 2 | NW | 29·80 | 29·38 | 60 | 28 | 44· | — | | |
| 3 | W | 29·96 | 29·75 | 60 | 40 | 50· | — | | 8 |
| 4 | NW | 30·10 | 29·96 | 59 | 34 | 46·5 | — | | |
| New M. 5 | SE | 29·95 | 29·77 | 65 | 52 | 58·5 | — | | |
| 6 | SE | 29·98 | 29·77 | 62 | 50 | 56· | — | | 8 |
| 7 | SW | 30·05 | 29·98 | 62 | 36 | 49· | — | | |
| 8 | SW | 29·98 | 29·42 | 61 | 46 | 53·5 | — | | 21 |
| 9 | SW | 29·48 | 29·30 | 56 | 34 | 45·– | — | | |
| 10 | SW | 29·47 | 28·59 | 55 | 38 | 46·5 | — | | 23 |
| 11 | SW | 29·15 | 28·90 | 55 | 36 | 45·5 | — | | 10 |
| 12 | SW | 29·20 | 29·10 | 54 | 43 | 48·5 | ·70 | | 5 |
| 13 | E | 29·37 | 29·20 | 55 | 32 | 43·5 | — | | 4 |
| 14 | W | 29·38 | 29·32 | 53 | 36 | 44·5 | — | | |
| 15 | SW | 29·50 | 29·32 | 55 | 37 | 46·– | — | | |
| 16 | W | 29·57 | 29·48 | 55 | 30 | 42·5 | — | | |
| 17 | NE | 29·50 | 29·35 | 55 | 38 | 46·5 | — | | |
| 18 | N | 29·60 | 29·35 | 53 | 38 | 45·5 | — | | 3 |
| 19 | E | 30·00 | 29·60 | 61 | 50 | 55·5 | — | | |
| 20 | E | 30·20 | 30·00 | 62 | 52 | 57· | — | | |
| 21 | E | 30·20 | 30·10 | 60 | 50 | 55·– | — | | |
| 22 | SE | 30·10 | 29·90 | 55 | 36 | 45·5 | — | | |
| 23 | E | 30·00 | 29·90 | 56 | 39 | 47·5 | — | | |
| 24 | E | 30·28 | 30·00 | 56 | 37 | 46·5 | — | | |
| 25 | N | 30·42 | 30·28 | 50 | 37 | 43·5 | — | | |
| 26 | N | 30·40 | 30·10 | 49 | 44 | 46·5 | — | | |
| 27 | NW | 30·10 | 29·70 | 55 | 44 | 49·5 | — | | |
| 28 | SW | 29·65 | 29·29 | 58 | 40 | 49·– | — | | 26 |
| 29 | W | 29·60 | 29·05 | 48 | 41 | 44·5 | — | | — |
| 30 | NE | 29·00 | 28·80 | 46 | 39 | 42·5 | — | | 1·24 |
| 31 | NE | 29·70 | 29·00 | 43 | 34 | 38·5 | ·70 | | 43 |
| | | 30·42 | 28·59 | 65 | 28 | 47·66 | 1·40 | | 3·00 |

Notes.—Tenth Mo. 1. Rainy. 2. Very foggy morning: fine day. 3. White frost: day fine: evening rainy. 4. Cloudy. 5. Rainy. 6. Rainy. 7—10. Fine. 11. Cloudy. 12. Fine. 13. Rainy. 14—17. Fine. 18. Rainy. 19—20. Overcast. 21—24. Fine. 25—27. Overcast. 28. Fine: rain at night. 29. Fine. 30. Rainy: 31. Rainy: stormy.

## RESULTS.

Winds: N, 3; NE, 3; E, 6; SE, 3; SW, 8; W, 4; NW, 3; Var. 1.

| | | |
|---|---|---|
| Barometer: | Greatest height | 30·42 in. |
| | Least | 28·59 in. |
| | Mean | 29·632 in. |
| Thermometer: | Greatest height | 65° |
| | Least | 28° |
| | Mean | 47·66° |
| | For 31 days, the sun in Libra | 49·600° |
| Evaporation | | 1·40 in. |
| Rain | | 3·00 in. |

*Corresponding opposite Currents in the Atmosphere.*

On the 30th October, 1823, at *Geneva*, it was very warm, the thermometer at 59° F. but in the following night there was a remarkable change of temperature: a very strong gale came on, with much rain, and towards morning, *snow* on the mountains round the lake, down to one thousand eight hundred feet elevation. The thermometer fell to 38·5° F.

On the coast of Bretagne and in the counties of Wilts, Bucks, Bedford, Oxon, &c. there was in the same night a great storm of wind with torrents of rain. On the morning of the 31st October, the hills around Salisbury were covered with snow; which near *Devizes*, &c. was said to be drifted four or five feet deep.

The remarkable part of this case is, *the opposite directions of the wind* during the storm. At *Geneva*, on the 29th, 30th, and 31st October, it is stated to have been constantly SW. In England, it was NE, or even verging to N.; yet the same depression of temperature obtained in both situations.

So far M. de Luc, who writes to the editors of the *Bibl. Univ.* for November 1823. I may add, that having fallen in with a gentleman from Halifax, Nova Scotia, he informed me, that during the gale above mentioned, the vessel in which he came, being then in the midst of the Atlantic, one thousand miles from Britain, had fine weather with a strong *westerly* wind, which brought them to Falmouth—*but attended with so great a swell from NE*, as to occasion a remark by the captain, that he was persuaded there must have been a great storm in that direction. The northerly gale, therefore, spent its fury on the ocean west of Britain—and the neighbouring continent was subjected merely to the counter-current from the southward; which yet must have descended from a colder tract of atmosphere above.

| 1823. | | Wind. | By Clock. | | Temp. | | Med. | Evap | Hygr. at 9 a. m. | Rain, &c. |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Max. | Min. | Max. | Min. | | | | |
| 11 mo. Nov. | 1 | NW | 30·05 | 29·70 | 45° | 27° | 36· | — | | |
| New M. | 2 | NW | 30·07 | 29·99 | 46 | 25 | 35·5 | — | | |
| | 3 | NW | 29·90 | 29·50 | 45 | 32 | 38·5 | — | | |
| | 4 | SW | 29·60 | 29·44 | 49 | 44 | 46·5 | — | | 21 |
| | 5 | E | 29·85 | 29·56 | 50 | 44 | 47·– | — | | 19 |
| | 6 | E | 29·90 | 29·80 | 58 | 48 | 53·– | — | | 44 |
| | 7 | NW | 30·10 | 29·90 | 55 | 50 | 52·5 | — | | 27 |
| | 8 | NW | 30·40 | 30·10 | 56 | 38 | 47·– | — | | |
| | 9 | NE | 30·50 | 30·40 | 46 | 32 | 39· | — | | |
| | 10 | E | 30·60 | 30·50 | 46 | 29 | 37·5 | — | | |
| | 11 | E | 30·55 | 30·43 | 42 | 23 | 32·5 | — | | |
| | 12 | E | 30·43 | 30·36 | 40 | 21 | 30·5 | — | | |
| | 13 | S | 30·40 | 30·22 | 43 | 23 | 33·– | — | | |
| | 14 | SW | 30·22 | 30·15 | 44 | 32 | 38·– | — | | |
| | 15 | NW | 30·40 | 30·20 | 50 | 36 | 43·– | — | | |
| | 16 | N | 30·40 | 30·34 | 51 | 33 | 42·– | ·51 | | |
| | 17 | NW | 30·38 | 30·32 | 42 | 37 | 39·5 | — | | — |
| | 18 | NE | 30·39 | 30·24 | 48 | 42 | 45·– | — | | |
| | 19 | E | 30·24 | 30·00 | 46 | 40 | 43·– | — | | |
| | 20 | SW | 30·10 | 30·00 | 51 | 40 | 45·5 | — | | |
| | 21 | W | 30·00 | 29·84 | 48 | 45 | 46·5 | — | | |
| | 22 | SW | 29·98 | 29·90 | 47 | 39 | 43·– | — | | |
| | 23 | SW | 30·10 | 29·77 | 48 | 43 | 45·5 | — | | |
| | 24 | SW | 30·21 | 30·10 | 50 | 45 | 47·5 | — | | |
| | 25 | SW | 30·21 | 30·17 | 50 | 41 | 45·5 | — | | |
| | 26 | NW | 30·20 | 30·01 | 48 | 44 | 46·– | — | | |
| | 27 | SW | 30·01 | 29·80 | 48 | 45 | 46·5 | — | | |
| | 28 | SW | 29·80 | 29·28 | 49 | 45 | 47·– | — | | 35 |
| | 29 | S | 29·37 | 29·28 | 52 | 44 | 48·– | — | | 13 |
| | 30 | SW | 29·81 | 29·35 | 57 | 50 | 53·5 | ·35 | | 13 |
| | | | 30·60 | 29·28 | 58 | 21 | 43·11 | 0·86 | | 1·72 |

NOTES.—Eleventh Mo. 1. Cloudy. 2. Fine: white frost in the morning. 3. White frost: foggy. 4. Cloudy. 5. Rainy. 6. Fine. 7. Rainy. 8. Cloudy. 9. Fine. 10. Very fine. 11. Fine. 12. Fine: hoar frost. 13. Ditto. 14. Hoar frost: foggy: overcast. 15. Overcast. 16. Very fine. 17. Overcast: a little rain in the morning. 18, 19. Overcast. 20. Fine. 21—24. Overcast. 25. Foggy morning: overcast. 26, 27. Overcast. 28. Cloudy. 29. Rainy. 30. Cloudy.

## RESULTS.

Winds: NE, 2; E, 6; S, 1; SW, 12; W, 1; NW, 8.

| | | |
|---|---|---|
| Barometer: | Greatest height | 30·60 in. |
| | Least | 29·28 in. |
| | Mean | 30·049 in. |
| Thermometer: | Greatest height | 58° |
| | Least | 21° |
| | Mean | 43·11° |
| | For 30 days, the sun in Scorpio | 42·483° |
| Evaporation | | 0·86 in. |
| Rain | | 1·72 in. |

Papers and advices received from all parts of the United Kingdom, furnish calamitous details of the damage occasioned upon land by the tempestuous weather which prevailed during Thursday and Friday last, [30th and 31st Oct.] To an extensive devastation of property is added a melancholy loss of human life. The inundation has made frightful ravages in the vicinity of Bath, Bristol, Aylesbury, Salisbury, and Oxford. Many of the mails were stopped on their route by the flood; the road between Hinton and Wincanton, near Salisbury, was rendered impassable by snow, which was so deep as to render it necessary to dig out the coaches.

*The Bucks Chronicle* of Saturday says:—"We have seldom experienced a greater storm of wind, snow, and rain, than took place on Thursday night, and part of yesterday.

By the *Exeter Gazette* of Saturday, it appears the storm was generally felt throughout the west. About fifty boats were drifted out to sea from Exmouth and the river Exe. A magnificent elm tree, upwards of one hundred years old, the property of the Rev. G. P. Cosserat, at Brampford Speke, was torn up by the roots, and fell with an astonishing crash. The waters of the Exe are much swollen, and a considerable number of cattle have been drowned."

*The Bath Journal* says:—"The late heavy rains caused the Avon to flow to an unprecedented extent, the water having risen fourteen inches higher than at the memorable flood of January, 1809; what rendered the circumstance far more distressing was, its being perfectly unexpected. On Friday morning, the water was in the lower rooms of several of the houses, and during the day it continued to rise: by Saturday morning, about five o'clock, it reached the second story of many houses in the streets adjacent to the river. The Dolemeads were entirely covered with a vast sheet of water, and about one o'clock on Saturday morning it rose so high, as to threaten the most imminent danger to the inhabitants; lamentable cries of distress were heard from all parts, and not a boat was to be procured for a considerable period. About two o'clock the water had reached the bed-rooms, and the poor sufferers were seen with lights, where they must have been standing in a considerable depth of water. At this crisis, Mr. Gilbert Nash, of this city, procured a ferry boat, and with the most praiseworthy intrepidity crossed the stream, which was extremely powerful, from the South Parade to the Dolemeads, and by indefatigable exertion rescued all, whom from their

cries of assistance, and the lights in their windows, (it being excessively dark,) he could discover. The boat was then conveyed to the parish of Bathwick, where he rescued several persons. By the time he had effected this, the water had risen considerably higher; he then crossed Pulteney-street, to the aid of the inhabitants who lived in that part of the Dolemeads adjoining the Bathwick parish. Among those whom he saved was one poor man named Fowler, whom he found in his bed-room; the water had prevented the possibility of his keeping a light in it, being nearly to his shoulders. In another small house, near this, he found a man and his wife, with eight small children, one of whom was at the breast. This young man was in full activity during the whole of Saturday, to the rescue of numerous sufferers who might otherwise have perished; and we learn, he acted in the same intrepid and indefatigable manner on the occasion of the last high flood, and was then the means of saving many lives. Such conduct deserves signal approbation, and, we trust, his exertions will not go unrewarded by his fellow-citizens. Mr. Lawrence, the respectable landlord of the Crown Inn, Bathwick, is deserving especial commendation, for his humanity in affording shelter, fire, &c. to numbers who were brought wet and cold from their inundated habitations. When the morning was more advanced, boats became numerously employed in the lower Bristol road, on the Quay, and in the streets in that neighbourhood, taking some of the inhabitants out, and supplying others with food."

The accounts of shipwrecks received at Lloyd's are dreadful. Above a hundred and forty vessels have been lost on the north-east coast.

*Penzance, Nov.* 1.—Since Thursday afternoon it has blown one of the most violent storms ever remembered in this part of the country. The wind suddenly shifted from ESE to NE and NNE, and instantly blew a hurricane.

*Falmouth, Oct.* 31.—The wind suddenly shifted last night from SW to N, when it became dark, and indicated bad weather. At half-past six it blew a tremendous hurricane, and continued without intermission till eight a. m. when it moderated for a short time, but recommenced soon after, with equal violence, and continued till five p. m. when it finally abated.

*Dover, Nov.* 2.—This dreary month came in with one of the most tremendous hurricanes ever remembered here; the gale was really terrific, and it is much feared that we shall not be long ere accounts reach us of many disasters at sea.

*Deal, Nov.* 1.—A tremendous gale came on from NNE about ten o'clock last night, and continued with unabated fury the whole of this day. Several vessels cut or parted from their anchors, and ran to the westward.

*The Southampton Chronicle* says:—During the late storm, upwards of five hundred trees were blown down in the park of Lord Bathurst, at Cirencester. *P. L. Nov.* 10.

*Jersey, Nov.* 8.—The weather has been dreadful; several vessels have been wrecked here and at Guernsey.

*Paris, Nov.* 7.—By accounts from Cherbourg of the 1st instant, the gale which commenced there at five in the morning of the 31st ult. continued for twenty-four hours, and ten or twelve vessels were wrecked in that vicinity.

*Vienna, Dec.* 23.—*The Observer of Trieste* contains a letter from Zante, of the 15th of November, which mentions that the Austrian frigate the Lepsia (Leipsig) commanded by Marquis Paulucci, on its passage from Missolonghi to Zante, was overtaken at the entrance of the channel of Cephalonia, by a violent storm, on the 12th of November, during which the lightning struck the mainmast, and with a hissing and cracking, rent it from top to bottom, scattering its fragments

to an astonishing distance all round. The lightning, when it reached the deck, threw out two streams of fire, which extended on each side of the ship, while the main column of the fire descended with astonishing rapidity into the hold, where it spent its fury on a basket of rusty balls, and then went out. The strange power of the electric fluid acted on the balls in such a manner as to make them look like highly polished steel. Several chests full of rockets, standing close to the mast, down which the lightning descended, happily escaped, otherwise the frigate must have been destroyed. Three sailors were killed, and five wounded.

Recent letters from Rome mention, that after a fall of a great deal of rain in that capital, a north wind had set in, accompanied with an extreme degree of cold, which had frozen all the waters. Ice in Rome, in the month of November, it is added, is a rare occurrence in the *natural* world.—*Jan.* 1, 1824.

| 1823. | Wind. | By Clock. | | Temp. | | Med. | Evap | Hygr. at 9 a. m. | Rain, &c. |
|---|---|---|---|---|---|---|---|---|---|
| | | Max. | Min. | Max. | Min. | | | | |
| 12 mo. Dec. 1 | W | 29·75 | 29·20 | 52° | 39° | 45·5 | — | | — |
| New M. 2 | SW | 29·53 | 29·00 | 52 | 36 | 44· | — | | 28 |
| 3 | SW | 29·50 | 28·89 | 54 | 39 | 46·5 | — | | 10 |
| 4 | W | 29·75 | 29·50 | 47 | 30 | 38·5 | — | | |
| 5 | W | 29·80 | 29·32 | 46 | 32 | 39· | — | | 41 |
| 6 | NE | 30·50 | 29·80 | 42 | 28 | 35· | — | | 4 |
| 7 | W | 30·50 | 30·40 | 36 | 31 | 33·5 | — | | |
| 8 | W | 30·40 | 30·26 | 44 | 34 | 39· | ·32 | | |
| 9 | NW | 30·40 | 30·30 | 44 | 27 | 35·5 | — | | |
| 10 | SW | 30·30 | 30·00 | 44 | 29 | 36·5 | — | | |
| 11 | SW | 30.00 | 29·70 | 48 | 40 | 44· | — | | |
| 12 | W | 29·88 | 29·70 | 43 | 33 | 38· | — | | |
| 13 | NW | 30·18 | 29·88 | 40 | 26 | 33· | — | | |
| 14 | NW | 30·20 | 30·05 | 41 | 31 | 36· | — | | |
| 15 | NW | 30·27 | 30·10 | 44 | 31 | 37·5 | — | | |
| 16 | SW | 30·10 | 29·50 | 47 | 39 | 43· | — | | — |
| 17 | SE | 29·50 | 28·65 | 48 | 32 | 40· | — | | 38 |
| 18 | W | 29·70 | 29·50 | 40 | 30 | 35· | — | | |
| 19 | NW | 29·70 | 29·15 | 36 | 26 | 31· | ·45 | | |
| 20 | SE | 29·15 | 29·00 | 45 | 32 | 38·5 | — | | 10 |
| 21 | NW | 29·55 | 29·10 | 50 | 36 | 43· | — | | — |
| 22 | NW | 29·78 | 29·55 | 45 | 30 | 37·5 | — | | — |
| 23 | SW | 29·90 | 29·66 | 45 | 36 | 40·5 | — | | 26 |
| 24 | SW | 29·98 | 29·88 | 48 | 42 | 45· | — | | 20 |
| 25 | SW | 29·88 | 29·70 | 49 | 39 | 44· | — | | 7 |
| 26 | SW | 29·70 | 29·08 | 46 | 39 | 42·5 | — | | 10 |
| 27 | SW | 29·45 | 29·10 | 45 | 35 | 40· | — | | |
| 28 | SW | 29·30 | 29·00 | 52 | 39 | 45·5 | — | | 6 |
| 29 | SW | 29·11 | 28·90 | 46 | 39 | 42·5 | — | | 6 |
| 30 | SW | 29·20 | 29·00 | 45 | 38 | 41·5 | — | | 2 |
| 31 | W | 29·60 | 29·20 | 49 | 38 | 43·5 | ·35 | | 25 |
| | | 30·50 | 28·65 | 54 | 26 | 39·82 | 1·12 | | 2·33 |

Notes.—Twelfth Month. 1. Cloudy. 2. Rainy. 3. Cloudy and fine: a furious gale from the W, all night. 4. Fine: wind still very high. 5. Foggy morning: cloudy. 6. Rainy morning: cloudy. 7. Foggy. 8. Foggy morning: fine. 9. Fine. 10. Cloudy. 11, 12. Fine. 13. Fine: bleak. 14. Fine clear morning: day very fine: evening foggy. 15. Very fine. 16. Overcast. 17. Rainy: a strong gale of wind in the evening, accompanied by an uncommonly rapid depression of the barometer. 18. Fine. 19. Foggy: gloomy. 20. Overcast: drizzling. 21. Foggy morning: afternoon fine.

22. Gloomy. 23, 24. Rainy: gloomy. 25. Drizzling. 26. Gloomy. 27. Fine. 28. Drizzling: night stormy. 29. Fine: some rain at night. 30. Cloudy and fine. 31. Fine day: night windy, with rain.

## RESULTS.

Winds: NE, 1; SE, 2; SW, 13; W, 8; NW, 7.

| | | |
|---|---|---|
| Barometer: | Greatest height | 30·50 in. |
| | Least | 28·65 in. |
| | Mean | 29·655 in. |
| Thermometer: | Greatest height | 54° |
| | Least | 26° |
| | Mean | 39·82° |
| | For 30 days, the sun in Sagittarius | 41·150° |
| Evaporation | | 1·12 in. |
| Rain | | 2·33 in. |

*Leeds, Dec.* 5.—On Tuesday night a strong wind prevailed from the west, and swept across the Island, from the Irish Sea to the German Ocean. The gale continued, with some abatement, through the greater part of the day on Wednesday, but in the course of the night it increased to a most violent hurricane. We have accounts from Liverpool, Rochdale, Halifax, Huddersfield, and Bradford, as well as from the Craven district, of all which concur in representing the storm to have been dreadful, particularly from three to four o'clock in the morning, when it raged with its utmost fury. At Holbeck, a chimney from an adjoining house fell upon a cottage, and, penetrating through the roof, deposited its ponderous materials upon the bed, in which the head of the family and his wife, with two children, were sleeping; but, though the pressure was so great that the legs of the bedstead were forced through the floor, the whole family escaped with their lives, though not without several severe bruises. At Wakefield, the servants of Mr. D. Maude and of Mr. Harrison narrowly escaped from a stack of chimnies having burst through the roof and fallen on the beds in both of these houses; and the roof, and a quantity of furniture, in the house of Mr. Leatham, the banker, whose family were fortunately from home, suffered materially by the falling of no fewer than four chimnies. At Doncaster, the sails of a windmill, though fastened in the usual way, were put in motion by the violence of the gale, and the building having taken fire from the friction, was reduced to a shell.—*Leeds Mercury.*

*Liverpool, Dec.* 6.—On Wednesday night last the wind, accompanied with a spitting rain, began to blow from the SE, and soon after midnight, veering to the SW, increased to a degree of fury, which alarmed the inhabitants of the town and neighbourhood, to whom the fatal accidents of the storm of this day twelvemonths were thus forcibly recalled. The previous night had been extremely boisterous, and had tended, in some degree, to sound the alarm of a stormy season. Happily the remembrance of last year's accidents had induced a pretty general examination of roofs and chimnies before the winter set in. Towards

one o'clock in the morning the storm became so alarmingly violent, that we are justified in assuming that the greater part of the inhabitants of the town rose from their beds, and betook themselves to the lower apartments of their houses, until towards break of day. The alarm, particularly amongst females and children, was universal, and the shaking of the houses, under the violent effects of the blast, compelled thousands to shiver during the whole night, without fire or warmth, in the lower rooms of the houses. Towards four o'clock the gale abated, and at day-light had ceased to be destructive. Of the disasters at sea, and on the coast, we yet only know, that many vessels have been driven on shore on the adjacent coasts.

*Plymouth*, *Dec.* 3.—Wind SSW.

*Portsmouth*, *Dec.* 3.—Wind SW. It blew very hard from SW last night, with heavy squalls of hail.

*Dec.* 4.—Wind SSW. It blew a tremendous storm last night from the same point.

*Harwich*, *Dec.* 4.—Last night and the whole of this day it has blown a hard gale from the westward.

*Deal*, *Dec.* 4.—Wind WSW. Last night, at nine o'clock, it came on to blow very hard from SSW, increasing with continued violence to a heavy gale, which lasted till nearly midnight.

*The Manchester Guardian* says:—"It will probably be in the recollection of some of our readers, that after the great storm which took place on the morning of the 1st of December last year, it was stated in one of the Manchester papers, that crystals of salt had been found in the windows of a gentleman's house in Salford, indicating that the spray from the sea must have been driven to that distance inland. Many persons regarded this statement with incredulity; but the fact has received complete confirmation from various sources during the last few days. Amongst others, Mr. Thos. Blackwell, of Crumpsall, observing the appearance, and we believe, the taste of the incrustations on his windows, rubbed a sponge over the glass, and took it to Mr. John Dalton, for the purpose of requesting him to analyze its contents. The presence of salt was immediately ascertained; and the same experiment made by Mr. Dalton, on his own windows in Manchester, produced the same result."

On Wednesday morning (the 3d inst.) about half-past eight o'clock, Gloucester and neighbourhood were visited by a violent thunder-storm. The thunder was loud and frequent, and the lightning very vivid, accompanied by a remarkably heavy storm of rain. The storm appears to have been very general, as it raged the same morning at Bristol, Carmarthen, Cheltenham, and in almost every direction around us. It seems to have come from the westward, having been felt in South Wales at an earlier hour than it was experienced at Gloucester.—*Dec.* 11, 1823.

The weather in France, during the last few days, has been very bad. The coaches from Paris to Calais have been retarded for several hours beyond the usual time, by the fogs and the quantity of water on the roads. From Boulogne no vessel sailed for six days, and the passage from Calais to Dover was effected with great difficulty. In Paris the foggy weather has been attended with a particular cutaneous disease, which has been very general. Amongst the lower orders not less than two hundred persons so afflicted have been in the hospital.—*P. L. Dec.* 8.

*Widewall*, *South Ronaldsha*, *Dec.* 14.—It has blown a severe gale from the NW for a week past. On the night of the 12th several coasters lost anchors and cables, but rode out the gale.

*Portsmouth, Dec.* 18.—Wind SW. We experienced a most tremendous gale last night from the SSW, which commenced about five o'clock, and continued with unabated fury until ten o'clock, when it suddenly veered round to the westward, and became more moderate.

*Falmouth, Dec.* 18.—The wind which has been blowing very strong from SSW, yesterday, about four p. m., shifted to SW and soon afterwards to NW, and increased to a hurricane, with tremendous squalls; it however moderated about six.

*Plymouth, Dec.* 18.—Wind W. It blew a tremendous gale last evening at SW, and ended at NW.

*Philadelphia, Dec.* 20.—In a severe gale from SW, at Eastport, on the 4th instant, all the vessels in the harbour were driven from their anchors; several went on shore, and all of them, more or less, injured.

Extract of a letter from Captain Prosser, of the Ebenezer, lying at St. Vincent's, dated the 22d of December: "We have had westerly winds here for nine days. The oldest inhabitants never recollect any thing like it before; it blew a strong gale from SSW for two days, which drove three vessels on shore at Kingston. We rode it out very well, by striking yards and topmasts. The wind has now got round to the east, and looks very likely for fine weather; constant rains retard the crop, so that we shall not sail so early as expected."

*The Oxford Journal* says:—"A thunder-storm of terrific violence occurred on the night of the 28th ult. which occasioned great mischief at Kemble, Wilts, the seat of Robert Gordon, Esq. M. P. where the elegant lofty steeple was rent from top to bottom, and large stones were forced to a great distance. The electric fluid descended into the body of the church, adjoining Mr. Gordon's mansion, every window of which was destroyed; the spire remains in a tottering condition."—*Jan.* 12, 1824.

Christmas this year, like that of 1822, has passed over without snow, except partially upon the mountains and fells, and with very little frost; indeed the winter, hitherto, has been uncommonly mild and open; and though we have had a few showers of hail and sleet, yet, upon the whole, the weather has proved so favourable to agriculture, that the operations of husbandry have met with little or no interruption.—*Carlisle Journal.*

Snow in Jamaica.—At Anatto Bay, about twenty minutes, p. m. on Sunday the 15th of December, the atmosphere very suddenly changed, with a heavy gust of wind from the NE, during which, for a minute and a half, there fell a trivial shower of snow. The flakes were, some of them, about the size of a ten-penny piece; but as they approached the earth, within the distance of about six feet, they dissolved into their pristine liquid. The thermometer must have fallen, in ten minntes, fourteen feet from the earth, at least 20°. The writer of the above congratulates himself on being one, perhaps out of 20,000, [here] who has opportunity of seeing native snow.—Papers.

| 1824. | | Wind. | By Clock. | | Temp. | | Med. | Evap | Hygr. at 9 a. m. | Rain, &c. |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Max. | Min. | Max. | Min. | | | | |
| N.M. | 3 mo. Jan. 1 | W | 29·30 | 29·25 | 48° | 36° | 42· | — | | |
| | 2 | NW | 30·20 | 29·25 | 47 | 32 | 39·5 | — | | |
| | 3 | NW | 30·65 | 30·20 | 45 | 28 | 36·5 | — | | |
| | 4 | SW | 30·65 | 30·61 | 36 | 30 | 33· | — | | |
| | 5 | SW | 30·62 | 30·30 | 40 | 28 | 34· | — | | |
| | 6 | Var. | 30·40 | 30·30 | 40 | 28 | 34· | — | | |
| | 7 | NW | 30·47 | 30·39 | 38 | 30 | 34· | — | | |
| | 8 | Var. | 30·41 | 30·28 | 40 | 32 | 36· | — | | |
| | 9 | SW | 30·30 | 30·22 | 45 | 34 | 39·5 | — | | |
| | 10 | SW | 30·30 | 30·14 | 45 | 38 | 41·5 | — | | 23 |
| | 11 | N | 30·57 | 30·30 | 43 | 23 | 33· | — | | |
| | 12 | SW | 30·59 | 30·55 | 33 | 19 | 26· | — | | |
| | 13 | SW | 30·59 | 30·51 | 31 | 23 | 27· | — | | |
| | 14 | NW | 30·51 | 30·40 | 31 | 26 | 28·5 | — | | |
| | 15 | NW | 30·61 | 30·42 | 36 | 26 | 31· | — | | — |
| | 16 | N | 30 68 | 30·61 | 36 | 24 | 30· | — | | |
| | 17 | NW | 30·64 | 30·50 | 38 | 24 | 31· | — | | |
| | 18 | NW | 30·50 | 30·27 | 40 | 31 | 35·5 | — | | — |
| | 19 | W | 30·27 | 30·17 | 42 | 36 | 39· | — | | |
| | 20 | NW | 30·20 | 29·80 | 42 | 38 | 40· | — | | 6 |
| | 21 | SW | 29·80 | 29·20 | 44 | 38 | 41· | — | | 31 |
| | 22 | SW | 29·20 | 28·83 | 51 | 42 | 46·5 | — | | 15 |
| | 23 | NW | 29·78 | 28·80 | 48 | 34 | 41· | — | | |
| | 24 | NW | 30·08 | 28·80 | 50 | 34 | 42· | — | | |
| | 25 | W | 30·20 | 30·08 | 54 | 49 | 51·5 | — | | |
| | 26 | W | 30·20 | 29·90 | 54 | 41 | 47·5 | — | | |
| | 27 | SW | 29·90 | 29·60 | 54 | 36 | 45· | — | | 9 |
| | 28 | SW | 29·90 | 29·52 | 46 | 35 | 40·5 | — | | 3 |
| | 29 | NW | 30·20 | 29·90 | 42 | 24 | 33· | — | | |
| | 30 | W | 30·17 | 30·06 | 38 | 26 | 32· | — | | |
| New M. | 31 | S | 30·00 | 30·06 | 43 | 24 | 33·5 | ·87 | | |
| | | | 30·68 | 28·80 | 54 | 19 | 36·95 | 0·87 | | 0·87 |

Notes.—First Month. 1. Cloudy and fine: boisterous night. 2. Fine: much wind, but calm at sunset: the *Cirrocumulus* has prevailed these two days. 3. Very fine day. 4. Little wind: [at Tottenham, at a quarter before eleven, a dense mist came suddenly into the village like a body of smoke, and the day was misty after.] 5—9. Fine days. 10. Fair: some rain in the night. 11. Fine: cloudy. 12, 13, 14. Hoar frost, with foggy nights: a great quantity of rime gradually accumulated on the trees, chiefly on the south side of the branches, presenting a magnificent spectacle. 15. Overcast p. m.

with a little snow: the wind having risen a little, the rime has fallen from the trees unmelted. 17. It is now *winter* under the trees, with a spring-like appearance every where else: the afternoon actually presented the rudiments of a thunder-cloud, succeeded by beautiful *Cirrocumuli* in bars; amidst which the moon rose with the calm lustre of a summer's evening. 19. *Cirrocumulus* above *Cirrostratus* in light beds over the whole sky. 20. *Cumulostratus:* after which *Nimbi* and an overcast sky: wind, with some rain in the night. 21. A hollow wind, with rain, mostly in the night. 22. Overcast: showers: in the night the wind rose, and it blew hard towards morning. 23. Fine morning: *Cirrostratus,* with *Cirrus* aloft: windy. 24—27. Overcast and cloudy. 28. Showery. 29. Fine: *Cumulus,* with *Cirrocumulus.* 30. Hoar frost: very clear at night. 31. Hoar frost: little wind, but with a hollow sound in the trees: very fine day.

## RESULTS.

Winds: N, 2; S 1; SW, 10; W, 5; NW, 11; Var. 2.

| | | |
|---|---|---|
| Barometer: | Greatest height | 30·68 in. |
| | Least | 28·80 in. |
| | Mean | 30·683 in. |
| Thermometer: | Greatest height | 54° |
| | Least | 19° |
| | Mean | 36·95° |
| | At Tottenham | 36·92° |
| | For 30 days, the sun in Capricorn | 37·150° |
| Evaporation | | 0·87 in. |
| Rain | | 0·87 in. |
| —— at Tottenham | | 0·79 in. |

*Memel, Jan.* 10.—All this week we have had a gale from W to NW, with heavy rain, which has carried off all the ice and snow.

*Gibraltar, Jan.* 21.—A very hard gale was experienced here from the eastward on the 17th instant, both in and out of the Mediterranean, as reported by different vessels, most of which have suffered severely in sails, &c.

*Plymouth, Jan.* 24.—Wind W, blowing a gale.

*Portsmouth, Jan.* 25.—Wind SW.—*Pub. Ledger.*

| 1824. | Wind. | By Clock. | | Temp. | | Med. | Evap | Hygr. at 9 a.m. | Rain, &c. |
|---|---|---|---|---|---|---|---|---|---|
| | | Max. | Min. | Max. | Min. | | | | |
| 2d. mo. Feb 1 | SE | 30·16 | 30·00 | 45° | 25° | 35· | — | | |
| 2 | E | 30·22 | 30·17 | 43 | 24 | 33·5 | — | | |
| 3 | SE | 30·10 | 29·70 | 45 | 32 | 38·5 | — | | 7 |
| 4 | W | 29·95 | 29·72 | 49 | 35 | 42· | — | | 16 |
| 5 | W | 30·18 | 29·95 | 43 | 32 | 37·5 | — | | |
| 6 | NW | 30·23 | 30·18 | 45 | 32 | 38·5 | — | | — |
| 7 | SW | 30·40 | 30·23 | 49 | 45 | 47· | — | | — |
| 8 | W | 30·55 | 30·40 | 54 | 48 | 51· | — | | — |
| 9 | Var. | 30·64 | 30·30 | 52 | 35 | 43·5 | — | | — |
| 10 | SW | 30·45 | 30·30 | 51 | 31 | 41· | — | | — |
| 11 | NW | 30·45 | 29·90 | 46 | 32 | 39· | — | | — |
| 12 | SW | 29·90 | 29·15 | 45 | 35 | 40· | ·45 | | 12 |
| 13 | W | 29·15 | 28·70 | 48 | 37 | 42·5 | — | | 1·04 |
| 14 | W | 29·50 | 29·00 | 45 | 32 | 38·5 | — | | 2 |
| 15 | NE | 29·77 | 29·00 | 42 | 26 | 34· | — | | |
| 16 | N | 29·75 | 29·44 | 43 | 28 | 35·5 | — | | |
| 17 | NE | 29·44 | 29·30 | 42 | 29 | 35·5 | — | | |
| 18 | E | 29·47 | 29·33 | 45 | 34 | 39·5 | — | | 6 |
| 19 | E | 29·60 | 29·40 | 45 | 37 | 41· | — | | 10 |
| 20 | E | 29·85 | 29·60 | 47 | 36 | 41·5 | — | | 33 |
| 21 | SW | 29·98 | 29·85 | 42 | 30 | 36· | — | | |
| 22 | E | 30·06 | 29·95 | 47 | 39 | 43· | — | | 8 |
| 23 | E | 30·11 | 30·06 | 42 | 38 | 40· | — | | |
| 24 | E | 30·11 | 30·00 | 43 | 27 | 35· | — | | |
| 25 | E | . | . | 38 | 30 | 34· | — | | |
| 26 | N | . | . | 43 | 30 | 36·5 | — | | |
| 27 | N | . | . | 39 | 33 | 36· | — | | 23 |
| 28 | SW | . | . | 42 | 34 | 38· | — | | 10 |
| New M. 29 | N | . | . | 45 | 34 | 39· | ·40 | | |
| | | 30·64 | 28·70 | 54 | 24 | 39·05 | 0·85 | | 2·31 |

Notes.—Second Mo. 1. Clear morning with white frost: fine day. 2. Very fine day. 3. Hoar frost: foggy. 4. Cloudy. 5. Fine: lunar halo at night. 6. Ditto. 7. Drizzling. 8. Overcast. 9, 10. Drizzly. 11. Very fine morning. 12. Drizzly. 13. Morning fine: [*Cumulus, Cumulostratus.*—Tott.] afternoon rainy: night stormy. 14. Cloudy. 15—17. Fine. 18. Cloudy and fine: [*Cirrostratus, Cirrus.*—Tott.] a little snow in the morning between five and six, which melted immediately. 19. Fine. 20. Drizzly morning: rainy evening. 21. [*Cirrocumulus, Cirrostratus, Cumulus.*—Tott.] Drizzly: very foggy night. 22. Foggy morning: fine afternoon. 23. Bleak.

24, 25. Fine. 26. Bleak: some hail and snow at three p. m. 27. Rainy: some hail at half-past eight a. m. 28. Cloudy: rainy evening. 29. Cloudy.

## RESULTS.

Winds: N, 4; NE, 2; E, 8; SE, 2; SW, 5; W, 5; NW, 2; Var. 1.

| | | |
|---|---|---|
| Barometer: | Greatest height | 30·64 in. |
| | Least | 28·70 in. |
| | Mean [ 5 days supplied] | 29·883 in. |
| Thermometer: | Greatest height | 54° |
| | Least | 24° |
| | Mean | 39·05° |
| | At Tottenham | 38·77° |
| | For 30 days, the sun in Aquarius | 40·216° |
| Evaporation | | 0·85 in. |
| Rain | | 2·31 in. |
| —— | at Tottenham | 2·36 in. |

[The Barometrical observations wanting are to be supplied as follows: 29·98, 29·96: 29·98, 29·90: 29·97, 29·90: 30·05, 29·97: 29·97, 29·94.]

A dreadful thunder-storm took place on the 3d inst. at Waterford, when the electric fluid descended a chimney, and killed a female, aged twenty-one. Three children and their mother were also in the room. Two of the children were seriously injured, and their sight so much affected, that it is feared it will not be recovered. The mother and the third, an infant, escaped injury from the fluid; though the former is seriously ill from the fright. The deceased's hair, clothes, and one arm, were burnt to ashes, and her neck and chest appeared like a black coal.—*Pub. Ledger, Feb.* 23, 1824.

On the 5th of February, the thermometer, Fahrenheit's scale, was forty and a half degrees below Zero, at the telegraph on Cape Diamond, Quebec. This telegraphic station is near four hundred feet above the level of the St. Lawrence. *Pub. Ledger.*

*The Sydney* (New South Wales) *Gazette*, of February 19, contains the following paragraph:—" Mr. Riley, the magistrate, has just returned from an eleven days' excursion into the interior; from whom we obtain the disagreeable tidings of the country, for the space of seventy miles round, being consumed by fire. The cause of this disaster, which will inevitably prove destructive to quantities of stock, is attributed to some disputes that have arisen between the natives and stockmen; the former, to be revenged, have set fire to the grass.—*P. L.*

*Harwich, March* 2.—It has blown very heavy all day from the NNE, with squalls of snow. Several vessels have put in for shelter.

*Yarmouth, March* 2.—It blew a heavy gale last night from NW to N, and still blows hard.

*Deal, March* 2.—Wind NW.

*Falmouth, March* 3.—Wind NNE, with heavy squalls of hail.

*March* 4.—The wind increased to a heavy gale yesterday, and continued to

blow from the northward with great violence, until seven p. m. when it moderated. Wind to-day at WNW.

*Yarmouth, March* 4.—Three vessels (names unknown) are dismasted, and many lost anchors and cables, and gone to the southward.

*Deal, March* 4.—Yesterday evening, about six o'clock, it came to blow excessively hard from WNW to NW, which about seven o'clock increased to a perfect hurricane, from NNE to NE, during which, &c. [details of damage "in a thick snow and tremendous sea." About thirty sail driven from the Downs.] This morning the wind set to NW more moderate, and it is now about W.

*Portsmouth, March* 7.—Wind SW. There are several vessels coming in, particulars unknown. A heavy gale from SW began at three a. m. and abated at three p. m.

*Deal, March* 6.—Wind WSW.

*March* 7.—Throughout this day it has blown strong from SW. with rain. Several ships are riding with two anchors a-head.

*Falmouth, March* 7.—Wind S to W, former part strong gales, with dirt; latter moderate and clear. No arrivals nor sailings.

*Portsmouth, March* 8.—Wind SSW. We have experienced a tremendous gale the whole of this morning from SW.

*Liverpool, March* 8.—Wind WNW, blowing hard with tremendous squalls.

*Falmouth, March* 10.—Wind NNE, fresh gales, with showers of sleet and snow.

*Portsmouth, March* 11.—Wind SW.

*Deal, March* 11.—Wind WSW, blowing strong.

*Messina, March* 6.—We have had tremendous NW gales from the night of the 2d inst. till last night. The shipping in port has not suffered; but there are bad accounts just arrived from Calabria, where, it is said, nine vessels have been driven on shore, or lost, between Pizzo and Scylla.

*Switzerland, March* 31.—The diligence, from Coire to Bellinzone, was suddenly overwhelmed on the 15th by an avalanche. M. Schmerde, bailiff of Roveredo, and a guide perished. The other passengers, twelve in number, the two guides and the horses, were fortunately extricated.

*Carlshruhe, April* 1.—A traveller just arrived from Switzerland says, he was obliged to stop at Thun, by the quantity of snow which had fallen, and made it impossible to proceed. The oldest inhabitants do not remember such immense quantities of snow on the Alps and in the vallies of Switzerland. It was still snowing when he left Thun the 27th of March.—PAPERS.

### *Experiments on the Temperature of a South Wall in winter.*

TOTTENHAM, Second Mo. 1, 1824.—A remarkably fine clear day, after a frosty night, at min. 25°. About 2 p. m. against a wall fronting S, with a return facing the W, the bulb of a delicate quicksilver Therm. inserted in a little cavity of the wall, gave . 70°

| | |
|---|---|
| The same, at two inches distance . . . . . | 55 |
| In the sun, the middle of the garden . . . . . | 50 |
| In the shade of a shrub . . . . . | 45 |
| In the shade of the house, N. . . . . | 42 |
| Temperature of the ground, in the N shade . . . | 32 |

The hoar-frost was not melted on the plants in the north border. The wind was SE and gentle.

This great variety of Temperature, within a small enclosure, may serve to demonstrate the effects of aspect, radiation, and reflection, on the various products obtainable by art on the earth's surface; as well as help to explain the differing heats of different latitudes. The experiment may also make us cease to wonder at the premature expansion of the blossoms, when trees are nailed to the wall in the early part of the season. I observe that gardeners take the precaution of leaving the fruitful twigs at a distance from the wall, until they can trust the season: and we may see from these experiments, that the space of two inches may suffice to save the blossom.

*Points of the Compass, as named in the Grecian Archipelago, &c.*

From Legh's "Narrative of a Journey in Egypt," &c. During the course in the Archipelago, a Greek ship navigated by Greeks, the author became acquainted with their method of sailing, and the points of their compass, which are as follows:

N. Tramontano [antiquis *Aparctias:* Romanis, *Septemtrio.*]
NE. Gréco [ant. *Boreas:* Romanis, *Aquilo.*]
E. Levante [*sun* rising: ant. *Apeliotes:* Romanis, *Subsolanus.*]
SE. Sirocco [as coming from *Syria:* ant. *Eurus:* Romanis, *Vulturnus.*]
S. Mezzodi [noonday wind: ant. *Notus:* Romanis, *Auster.*]
SW. Lybico [Lybia lies to the SW of them: ant. *Libs:* Romanis, *Africus.*]
W. Ponente [*sun* setting: ant. *Zephyrus:* Romanis, *Favonius.*]
NW. Maestro [ant. *Argestes:* Romanis *Corus.*

The Roman names of these, and the more ancient, among the Greek sailors (I suppose) under the Roman empire, I have taken from the notes of my *Pliny.* The Romans had also *Meses,* NE¼E: *Libonotus,* SSE: *Thracius,* NNW; and of local names, *Sciron,* (peculiar to the Athenians,) NW¼W: *Circius,* (in Narbonne,) WNW: Hippalus, (of the Arab sailors,) W: *Atabulus,* (in Apulia,) NW; and *Olympius,* (in Eubœa,) NW.

*London* is so situated as to have its *Sirocco* and its *Tramontano*—the one sultry, vaporous, and bringing thunder; the other dry, dense, and cooling—from the same points of the compass, as here stated; the SE lying towards the Estuary, the channel, and the warmer continent; and the NW towards the hilly midland counties.—L. H.

| 1824. | | Wind. | By Clock. | | Temp. | | Med. | Evap | Hygr. at 9 a. m. | Rain, &c. |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Max. | Min. | Max. | Min. | | | | |
| 3 mo. March | 1 | NW | | | 45° | 28° | 36·5 | — | | 2 |
| | 2 | N | | | 38 | 27 | 32·5 | — | | |
| | 3 | NW | | | 34 | 27 | 30·5 | — | | 5 |
| | 4 | NW | | | 45 | 33 | 39· | — | | |
| | 5 | W | | | 50 | 39 | 44·5 | — | | — |
| | 6 | SW | | | 52 | 44 | 48· | ·44 | | 7 |
| | 7 | SW | 30·00 | 29·65 | 52 | 44 | 48· | — | | 48 |
| | 8 | SW | 29·71 | 29·30 | 52 | 34 | 43· | — | | 9 |
| | 9 | SW | 29·87 | 29·21 | 48 | 35 | 41·5 | — | | — |
| | 10 | NE | 29·87 | 29·79 | 45 | 28 | 36·5 | — | | 3 |
| | 11 | W | 30·20 | 29·85 | 48 | 30 | 39· | — | | 23 |
| | 12 | NW | 30·20 | 29·58 | 49 | 34 | 41·5 | — | | 16 |
| | 13 | NW | 29·63 | 29·40 | 48 | 33 | 40·5 | — | | 3 |
| | 14 | N | 30·07 | 29·40 | 46 | 27 | 36·5 | — | | |
| | 15 | S | 30·15 | 30·07 | 48 | 36 | 42· | ·46 | | 6 |
| | 16 | W | 30·14 | 30·00 | 48 | 40 | 44· | — | | |
| | 17 | W | | | 48 | 33 | 40·5 | — | | |
| | 18 | NW | | | 58 | 38 | 48· | — | | |
| | 19 | NW | | | 58 | 30 | 44· | — | | |
| | 20 | E | | | 55 | 41 | 48· | — | | |
| | 21 | SW | | | 48 | 36 | 42· | — | | 23 |
| | 22 | Var. | 30·00 | 29·86 | 43 | 29 | 36· | — | | 34 |
| | 23 | N | 30·00 | 29·86 | 48 | 35 | 41·5 | — | | 7 |
| | 24 | NE | 30·15 | 30·00 | 44 | 38 | 41· | — | | |
| | 25 | NE | 30·16 | 30·00 | 45 | 37 | 41· | — | | |
| | 26 | NE | 30·00 | 29·85 | 45 | 34 | 39·5 | — | | |
| | 27 | N | 29·92 | 29·80 | 44 | 32 | 38· | ·46 | | 5 |
| | 28 | NE | 30·02 | 29·92 | 43 | 23 | 33· | — | | 1 |
| | 29 | NW | 29·98 | 29·72 | 47 | 34 | 40·5 | — | | |
| New M. | 30 | NW | 29·80 | 29·71 | 43 | 27 | 35· | — | | 13 |
| | 31 | N | 29·92 | 29·79 | 36 | 24 | 30· | ·25 | | |
| | | | 30·39 | 29·12 | 58 | 23 | 40·05 | 1·61 | | 2·05 |

Notes.—Third Mo. 1. Fine morning: afternoon cloudy: evening rainy: [B. 29·94, 29·82.] 2. Fine, [*Cumulus*, strong gale: B. 29·82, 29·12.] 3. [B. 30·02, 29·12:] Stormy, with snow, sleet, and rain, at intervals; and some hail. 4. Fine: [at Tottenham, wet squalls and snow: B. 30·04, 29·72.] 5. Showers: [29·97, 29·72.] 6. Cloudy: [29·97, 29·70.] 7. Rainy. 8. Morning rainy, with boisterous wind: cloudy. 9. Fine. 10. Cloudy and showery. 11. Rainy. 12. Stormy: showers of hail, rain, and sleet, during the afternoon: [*Nimbus.*] 13. Hail showers: sleet: driving wind:

[*Nimbus.*] 14. Cloudy: windy: [*Cirrocumulus, Cumulus.*—Tott.] 15. Cloudy. 16—20. Fine: [B. 17—21, viz. 30·35, 30·26: 30·38, 30·35: 30·39, 30·05: 30·05, 29·78.] 21. Rainy. 22. Rain and sleet. 23. A considerable fall of snow this morning, in very large flakes: the day was afterwards fine. 24. Overcast: bleak. 25. Fine: cold. 26. Fair: bleak. 27. Showers. 28. Showers of snow and hail, with occasional gleams of sunshine. 29. Fine. 30. Fine: bleak: snow and hail showers. 31. Fine: bleak: a little snow.

## RESULTS.

Winds: N, 5; NE, 5; E, 1; S, 1; SW, 5; W, 4; NW, 9; Var. 1.

| | | |
|---|---|---|
| Barometer: | Greatest height | 30·39 in. |
| | Least | 29·12 in. |
| | Mean [11 days supplied] | 29·899 in. |
| Thermometer: | Greatest height | 58° |
| | Least | 23° |
| | Mean | 40·05° |
| | At Tottenham (2 days supplied) | 40·76° |
| | For 29 days, the sun in Pisces | 39·844° |
| Evaporation | | 1·61 in. |
| Rain | | 2·05 in. |
| —— at Tottenham | | 2·21 in. |

On two evenings in this month I observed the *zodiacal light* very distinctly at *Ackworth.*—L. H. (*See Extracts,* p. 136.)

*Portsmouth, April* 2.—Wind NNE. It has blown a very heavy gale from NW, until three p. m. It is now more moderate, and several of the outward-bound are under weigh.

*Deal, April* 2.—Wind NE. In the course of last night and early this morning it came on to blow excessively hard from SW to SSW, during which, &c.

*Brixham, April* 3.—Yesterday it blew a gale at NNW until noon, when it shifted to NE and several vessels which had come in on Thursday evening, through contrary winds, proceeded to sea.

*Cardiff, April* 17.—During the whole of Thursday night and Friday morning it blew a most tremendous gale from SE to E.

*Penzance, April* 17.—Yesterday morning it blew a tremendous gale here from ESE and SE. which occasioned much damage to several vessels in this port.

*Deal, April* 18.—Wind NE. During yesterday and to-day the wind has been strong from NE to ENE. No arrivals either day.

During a hail-storm which visited Frome and its neighbourhood on Thursday week, upwards of twelve hundred panes of glass were broken at the Earl of Cork's at Marston.—*Sat. May* 1, 1824.

*Plymouth, April* 24.—Wind SW. It blew a gale last night at SW, when the Two Brothers, Faro, was near driven on shore, but was extricated by assistance from the shore. [Spoke with, the Hopewell, Dobson, from London to Quebec,

on the 2d, in lat. 44° 30′ long. 36° with loss of main-yard, topmasts, bulwarks, and sails, having been struck by lightning during a tremendous gale on the 23d ult.—*May* 28, 1824.]

*Schaffhausen*, *April* 15.—The mass of snow in Switzerland has considerably augmented lately. It is now seventeen feet deep on the top of Mount Rigi, and fifteen feet deep near the Little Convent. Several roads in the Mountains have become wholly impassable.

The Camden, Halifax packet, respecting whose safety much doubt existed both here and in America, has at length arrived. The cause of her delay originated from the state of the weather on her passage out with the December Mail, having been ninety-two days, during which time she experienced most boisterous weather. On her return she completed the same passage in twenty-one days.

*Jersey*, *May* 24.—The Betsy and Jane, Hanson, bound to Newfoundland, has put back this day, after being out fifty days, having experienced a dreadful hurricane, and received considerable damage, thrown part of her cargo overboard, and much damaged the remainder. On the 1st instant, in lat. 45° long. 35° spoke the Henry, of London, totally dismasted, and with loss of rudder. The crew were going on board the Endless, of London, which was a mile distant, with only one jury-mast up; the Betsy and Jane, having lost all her boats, could render them no assistance. And on the 5th inst. in lat. 46°, long. 27°, spoke the Eliza, from New York to Portsmouth, with all her masts, &c. gone, except the foremast, and had lost two of her crew.

*Falmouth*, *May* 18.—Wind NW. Arrived the Joseph and J. Green, from Shields to Miramichie, out five weeks, and has been as far as lat. 48°, long. 34°, mainmast sprung, loss of boats, bulwarks, sails, and leaky. Also arrived the Three Brothers, from Shields to Quebec, out five weeks, and has been as far west as long. 26°; mainmast sprung, loss of main-topmast, jib-boom, sails, rigging, bulwarks, &c. and carpenter washed overboard. Also, the Lydia, Robinson, from Liverpool to Miramichie, out forty-four days, and has been as far west as long. 37°. On the 23d ult. was struck by lightning, which shivered the mainmast, carried a way the main top-mast, split the deck, and one pump; killed a boy, and did other damage; and from that time to the 20th ult. sprung her bowsprit, lost many other sails, and was also pooped by a heavy sea, which filled the cabin and washed away the round-house.

*May* 19.—Wind NW. Arrived the John and Robert, ——, from Bristol for Montreal, out six weeks; has been as far west as long. 30°, and was dismasted on the 28th ult. The Mary, Layson, from Bristol for New York, was spoken with on the 2d instant, dismasted, and returning.

Two p. m.—There is a brig now working in with loss of topmasts.

*Deal*, *May* 20.—Wind NW. Remain the Ruby and Rambler, for London. These vessels experienced very severe gales on the 28th and 29th ults. in lat. 46°, long. 32°, and have been obliged to bear up.

*Quebec*, *May* 31.—The vessels which have arrived yesterday and this morning, have experienced the most boisterous weather that has been known for many years past. A captain who has been thirty years at sea, says he never experienced such rough weather. The losses at sea are appalling.

*June* 5.—After very boisterous passages and considerable suspense here as to their fates, the spring fleet commenced arriving on the 1st instant; before that, there were not above thirty vessels in port; there are now about two hundred. Considerable damage has been sustained—all have suffered more or less, in masts, spars, boats, rigging, &c.; seven are totally lost—crews partly saved;

there are several vessels missing, three from London; and the Thisbe, from Liverpool.—Papers.

### Loss of the Ship Hannibal, by Lightning.

The Hannibal, of Boston, commanded by John G. Low, sailed from Hampton Roads for Liverpool, on the 12th of April. Mr. Taylor, of Manchester, and Mr. O'Connor, of Ireland, were passengers. On the 22d, in long. 49°, lat. 44°, she experienced a severe gale of wind, with rain and hail. At midnight she was struck by lightning, which killed the second mate and two seamen. There was no appearance of the masts being injured. In about an hour it was discovered the ship was on fire in the hold. The passengers were with difficulty got out of the cabin, on account of the smoke. Mr. Taylor, on getting on deck, broke his thighs. Holes were cut in the deck, and water poured down, in hopes of extinguishing the fire. Mr. Taylor was lashed to the windward side of the deck; he died about twelve o'clock the next day. Finding it impossible to put out the fire, Captain Low closed up the cabin doors, and every place through which air could be admitted below. In this situation they remained about thirty-six hours, when finding the hatches burnt through, they took to the long boat, in which fourteen persons embarked, in a heavy gale of wind. The fire blazed out in several parts of the ship immediately after leaving her. About six hours after leaving the ship, they saw a vessel steering directly towards them, but on seeing the ship on fire she hauled her wind, leaving the boat to leeward; the weather being wet and squally, there was no chance of the boat being seen by the ship. Each day the boat saw two sail, and one passed so near that they could see the crew walking up and down on deck. On the 26th, after being exposed to severe gales in an open boat for fifty-six hours, they were seen by the brig Thetis, Captain Taylour, from Antigua for Whitehaven. That gentleman treated Captain Low and his crew with every attention in his power. It is but justice to Captain Low to state, on the information of some of his crew, that from the time of discovering the ship to be on fire until they were on board the Thetis, he behaved throughout with the greatest coolness and fortitude; he cheered their drooping spirits; and, as one of them remarked, had it not been for his animating example, they would have given themselves up to despair, and must inevitably have perished.

The *Penelope*, of this port, was struck by lightning, during a heavy gale, in lat. 46°, long. 39°; her main and main top-mast damaged. Soon after she saw a vessel to leeward on fire; bore down, and found her to be the Hannibal, of New York. She was burnt to the water's edge.—*Liverpool Mercury.*

| 1824. | | Wind. | By Clock. | | Temp. | | Med. | Evap | Hygr. at 9 a. m. | Rain, &c. |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Max. | Min. | Max. | Min. | | | | |
| 4 mo. April | 1 | W | 29·88 | 29·10 | 44° | 35° | 39·5 | — | | 45 |
| | 2 | NW | 30·05 | 29·10 | 43 | 28 | 35·5 | — | | 2 |
| | 3 | N | 30·38 | 30·05 | 50 | 30 | 40· | — | | |
| | 4 | NE | 30·57 | 30·38 | 49 | 28 | 38·5 | — | | |
| | 5 | NE | 30·56 | 30·52 | 52 | 30 | 41· | — | | |
| | 6 | NE | 30·57 | 30·20 | 51 | 34 | 42·5 | — | | — |
| | 7 | NW | 30·37 | 30·20 | 45 | 33 | 39· | — | | 2 |
| | 8 | NE | 30·37 | 30·12 | 54 | 38 | 46· | — | | |
| | 9 | NE | 30·12 | 29·45 | 50 | 38 | 44· | — | | 13 |
| | 10 | NW | 29·57 | 29·33 | 44 | 30 | 37· | — | | 12 |
| | 11 | NW | 29·48 | 29·35 | 45 | 30 | 37·5 | — | | 1 |
| | 12 | NW | 29·75 | 29·48 | 52 | 30 | 41· | — | | |
| | 13 | NW | 29·95 | 29·75 | 55 | 30 | 42·5 | ·85 | | — |
| | 14 | NW | 29·95 | 29·85 | 52 | 25 | 38·5 | — | | — |
| | 15 | E | 29·85 | 29·30 | 56 | 38 | 47· | — | | 6 |
| | 16 | E | 29·55 | 29·27 | 44 | 40 | 42· | — | | 80 |
| | 17 | NE | 30·20 | 29·55 | 48 | 34 | 41· | — | | 20 |
| | 18 | NE | 30·37 | 30·20 | 58 | 28 | 43· | — | | |
| | 19 | SE | 30·43 | 30·38 | 59 | 33 | 46· | — | | |
| | 20 | E | 30·38 | 30·12 | 65 | 34 | 49·5 | — | | |
| | 21 | E | 30·12 | 29·88 | 62 | 51 | 56·5 | — | | 4 |
| | 22 | SW | 30·03 | 29·17 | 65 | 48 | 56·5 | — | | 9 |
| | 23 | Var. | 30·12 | 29·17 | 64 | 45 | 54·5 | ·95 | | 8 |
| | 24 | NW | 30·26 | 30·12 | 60 | 39 | 49·5 | — | | |
| | 25 | SW | 30·12 | 29·70 | 64 | 51 | 57·5 | — | | |
| | 26 | SE | 29·90 | 29·53 | 62 | 43 | 52·5 | — | | — |
| | 27 | W | 30·00 | 29·90 | 63 | 52 | 57·5 | — | | |
| | 28 | SW | 30·00 | 29·75 | 60 | 50 | 55· | — | | 2 |
| New M. | 29 | SW | 29·75 | 29·68 | 73 | 51 | 62· | — | | |
| | 30 | SW | 30·01 | 29·80 | 66 | 50 | 58· | ·96 | | 1 |
| | | | 30·57 | 29·10 | 73 | 25 | 46·35 | 2·76 | | 2·05 |

Notes.—Fourth Mo. 1. Fine till 5 p. m.: wind cold; night rainy. 2. Some rain this morning: cloudy: windy. 3—6. Fine. 7. Cloudy. 8, 9. Fine. 10. Rainy morning: stormy day: showers of hail and rain: gusty. 11. The ground covered with snow this morning: snow showers. 12. Cloudy. 13. Fine: two or three trifling showers. 14. Ditto. 15. Fine: very high wind during the night: a large solar halo, slightly tinged with prismatic colours, which lasted about half an hour before sunset. 16. Very rainy morning, with high wind. 17. Rainy morning: wet till 4 p. m.

18. Very fine morning. 19—22. Fine. 23. Showery morning: overcast: windy. 24, 25. Fine. 26. Very much overcast this morning: showers, p. m. 27. Overcast. 28. Showers. 29, 30. Fine.

## RESULTS.

Winds: N, 1; NE, 7; E, 4; SE, 2; SW, 5; W, 2; NW, 8; Var, 1.

| | | |
|---|---|---|
| Barometer: | Greatest height | 30·57 in. |
| | Least | 29·10 in. |
| | Mean | 29·934 in. |
| Thermometer: | Greatest height | 73° |
| | Least | 25° |
| | Mean | 46·35° |
| | For 30 days, the sun in Aries | 39·966° |
| Evaporation | | 2·76 in. |
| Rain | | 2·05 in. |

*Effect of falling Snow on the sensorium, producing spectral vision.*

On the 11th inst. I had gone to town from Tottenham through a snow storm, and after alighting from the carriage, had shut my eyes, probably a little fatigued with the glare of the snow, and was holding my hand across them. In this posture my attention was arrested by moving points of light. On steadily contemplating these, I found that they represented, with great accuracy, the appearance of the snow; having the same kind of distribution over the field of view, the same oblique descending movement in the same direction, and even the same occasional whirls and eddies. The picture was not of the natural magnitude; but such as one might imagine to be represented in a very small *camera obscura*. But I forgot to take notice, whether it was bounded by a figure like the window of my carriage, through which I had viewed the storm. In about three minutes, the motion of these points of light slackened and became confused, and the appearance ceased, pretty suddenly, leaving nothing before me but the perfect darkness of the closed eyes; the room being also pretty dark.

In this case *the act of perception* (for so I would explain the matter) having become somewhat of a *habit*, by the continuance of it during forty or fifty minutes, was exercised *involuntarily* for about five minutes longer than the time during which the exciting cause was present. But had I not happened so opportunely to close my eyes, I should have lost the consciousness of this remaining state of activity *as to the object gone from me*, in the multitude of new perceptions, exercised upon *new and present ones*. (*For Extracts, see* p. 143.)

| 1824. | | Wind. | By Clock. Max. | By Clock. Min. | Temp. Max. | Temp. Min. | Med. | Evap | Hygr. at 9 a. m. | Rain, &c. |
|---|---|---|---|---|---|---|---|---|---|---|
| 5 mo. May | 1 | SW | 30·03 | 29·92 | 66° | 51° | 58·5 | — | | 11 |
| | 2 | N | 29·92 | 29·56 | 61 | 41 | 51· | — | | 24 |
| | 3 | NW | 29·76 | 29·55 | 47 | 40 | 43·5 | — | | 28 |
| | 4 | NW | 29·93 | 29·76 | 52 | 39 | 45·5 | — | | — |
| | 5 | SW | 29·98 | 29·92 | 62 | 47 | 54·5 | — | | 8 |
| | 6 | SW | 29·98 | 29·90 | 66 | 42 | 54· | — | | 5 |
| | 7 | N | 30·27 | 29·98 | 68 | 43 | 55·5 | — | | |
| | 8 | N | 30·43 | 30·27 | 68 | 48 | 58· | — | | |
| | 9 | SE | 30·40 | 30·02 | 62 | 39 | 50·5 | — | | |
| | 10 | NE | 30·06 | 29·98 | 69 | 42 | 55·5 | ·84 | | |
| | 11 | E | 30·06 | 29·92 | 54 | 44 | 49· | — | | — |
| | 12 | NE | 29·93 | 29·75 | 53 | 40 | 46·5 | — | | 17 |
| | 13 | NE | 29·75 | 29·47 | 50 | 42 | 46· | — | | 48 |
| | 14 | NE | 29·50 | 29·43 | 48 | 43 | 45·5 | — | | 59 |
| | 15 | NE | 29·75 | 29·42 | 46 | 42 | 44· | — | | 1·67 |
| | 16 | N | 30·00 | 29·75 | 56 | 37 | 46·5 | — | | — |
| | 17 | NW | 29·98 | 29·88 | 55 | 44 | 49·5 | — | | |
| | 18 | NW | 29·88 | 29·64 | 55 | 37 | 46· | — | | — |
| | 19 | NW | 29·78 | 29·65 | 56 | 40 | 48· | — | | |
| | 20 | NW | 29·84 | 29·69 | 57 | 29 | 43· | — | | |
| | 21 | E | 29·94 | 29·84 | 61 | 32 | 46·5 | — | | |
| | 22 | NE | 29·96 | 29·85 | 56 | 32 | 44· | — | | — |
| | 23 | NW | 29·90 | 29·86 | 61 | 42 | 51·5 | — | | — |
| | 24 | N | 30·15 | 29·90 | 58 | 34 | 46· | ·94 | | 11 |
| | 25 | NE | 30·41 | 30·15 | 62 | 48 | 55· | — | | |
| | 26 | N | 30·60 | 30·41 | 72 | 46 | 59· | — | | |
| | 27 | NW | 30·61 | 30·50 | 70 | 40 | 55· | — | | |
| New M. | 28 | SW | 30·50 | 30·20 | 76 | 41 | 58·5 | — | | |
| | 29 | NE | 30·20 | 29·79 | 69 | 51 | 60· | — | | |
| | 30 | E | 29·85 | 29·75 | 68 | 48 | 58· | — | | 1 |
| | 31 | SW | 30·17 | 29·85 | 70 | 48 | 59· | ·82 | | |
| | | | 30·61 | 29·42 | 76 | 29 | 51·06 | 2·60 | | 3·79 |

Notes.—Fifth Mo. 1. Fine. 2, 3. Rainy. 4, 5. Showery. 6—8. Fine. 9. Fine: a solar halo, coloured, a little before sunset. 10. Fine: a lunar halo of the largest diameter. 11. Overcast: cold wind: a lunar halo at night, with a bright spot on each side, at the same height as the moon. 12. Showers. 13. Rainy. 14. Rainy. 15. Rain, without ceasing, all day. 16. Cloudy. In consequence of the heavy rains of the last four days, amounting on the whole to 2·91 inches, a flood was naturally expected this morning; and to-

wards evening the waters rose suddenly in the Lea, and passing over all the banks of the level, soon filled the marshes, and in the course of the night rose to an unprecedented height, being two inches and a half higher than in the flood of 1809. The houses in the marshes south of the road were filled nearly to the chamber floors, and some of the inmates removed with great difficulty: the flood remained stationary for nearly twenty-four hours. On the 17th in the afternoon, it began very gradually to subside, and on the 18th, in the morning, was much abated; the marshes still presenting the appearance of a sea, the tops of the trees appearing in places only. 17—19. Cloudy and fine. 20—23. Fine. 24. Morning showery. 25—29. Fine. 30. Fine: a slight shower in the morning. 31. Cloudy and fine.

## RESULTS.

Winds: N, 6; NE, 8; E, 3; SE, 1; SW, 5; NW, 8.

| | | |
|---|---|---|
| Barometer: | Greatest height | 30·61 in. |
| | Least | 29·42 in. |
| | Mean | 29·952 in. |
| Thermometer: | Greatest height | 76° |
| | Least | 29° |
| | Mean | 51·06° |
| | For 31 days, the sun in Taurus | 51·693° |
| Evaporation | | 2·60 in. |
| Rain | | 3·79 in. |

The heavy falls of rain which occasioned the flood, noticed above, (and which was equally dangerous, and the source of many accidents elsewhere) did not extend far north, on the east side of the island. For at *Ackworth*, in this month, they had not more than 1·10 in. of rain measured at the surface of the ground, by an accurate guage. And in the space from the 4th to the 22d, though it rained lightly at times, and on eleven days, (but with northerly winds chiefly,) there fell only 0·14 in. The *vapour* came in therefore, by the estuary of the Thames, and the *Humber* was to the north of that current

| 1824. | Wind. | By Clock. | | Temp. | | Med. | Evap | Hygr. at 9 a. m. | Rain, &c. |
|---|---|---|---|---|---|---|---|---|---|
| | | Max. | Min. | Max. | Min. | | | | |
| 6 mo. June 1 | N | 30·34 | 30·17 | 76° | 45° | 60·5 | — | | |
| 2 | Var. | 30·36 | 30·27 | 72 | 49 | 60·5 | — | | |
| 3 | NE | 30·36 | 30·30 | 62 | 48 | 55· | — | | |
| 4 | NE | 30·30 | 30·19 | 72 | 45 | 58·5 | — | | |
| 5 | NE | 30·19 | 30·15 | 62 | 50 | 56· | — | | |
| 6 | N | 30·18 | 30·12 | 79 | 51 | 65· | — | | |
| 7 | N | 30·12 | 30·08 | 85 | 49 | 67· | — | | |
| 8 | E | 30·08 | 29·91 | 81 | 46 | 63·5 | ·81 | | |
| 9 | NE | 29·94 | 29·88 | 78 | 51 | 64·5 | — | | 20 |
| 10 | NE | 30·10 | 29·94 | 56 | 44 | 50· | — | | 46 |
| 11 | NE | 30·20 | 30·15 | 64 | 34 | 49· | — | | |
| 12 | N | 30·15 | 30·00 | 67 | 34 | 50·5 | — | | |
| 13 | S | 30·00 | 29·30 | 66 | 46 | 56· | — | | 84 |
| 14 | S | 29·30 | 29·12 | 64 | 46 | 55· | — | | 14 |
| 15 | SE | 29·54 | 29·30 | 62 | 42 | 52· | — | | — |
| 16 | SE | 29·80 | 29·54 | 66 | 42 | 54· | — | | 27 |
| 17 | NE | 30·02 | 29·80 | 63 | 39 | 56· | — | | |
| 18 | N | 30·00 | 29·60 | 72 | 44 | 58· | ·92 | | |
| 19 | S | 29·60 | 29·34 | 66 | 54 | 60· | — | | 15 |
| 20 | S | 29·45 | 29·30 | 62 | 53 | 57·5 | — | | 25 |
| 21 | W | 29·54 | 29·45 | 72 | 46 | 59· | — | | |
| 22 | SW | 29·51 | 29·30 | 74 | 51 | 62·5 | — | | 5 |
| 23 | E | 29·37 | 29·30 | 63 | 51 | 57· | — | | 1·08 |
| 24 | N | 29·72 | 29·37 | 62 | 51 | 56·5 | — | | 22 |
| 25 | NW | 30·00 | 29·72 | 64 | 49 | 56·5 | — | | — |
| New M. 26 | NW | 30·03 | 29·95 | 74 | 52 | 63· | — | | |
| 27 | SE | 29·95 | 29·90 | 72 | 54 | 63· | ·88 | | |
| 28 | SW | 29·90 | 29·63 | 78 | 52 | 65· | — | | — |
| 29 | S | 29·86 | 29·62 | 79 | 50 | 64·5 | — | | — |
| 30 | SW | 29·87 | 29·78 | 73 | 50 | 61·5 | ·28 | | 1 |
| | | 30·36 | 29·12 | 85 | 34 | 58·56 | 2·89 | | 3·67 |

Notes.—Sixth Mo. 1, 2. Fine. 3. Overcast. 4. Fine and overcast. 5. Fine. 6. Fine: a *Stratus* on the marshes at night. 7. Fine: sultry. 8. Sultry. 9. Fine. 10. Rainy day. 11, 12. Fine. 13. Rainy night. 14. Showery. 15. Cloudy. 16. Fine: rainy night. 17, 18. Fine. 19, 20. Rainy. 21, 22. Fine. 23. Very rainy. 24. Rainy. 25. Cloudy. 26. Cloudy. 27. Fine. 28. Cloudy. 29, 30. Fine.

## RESULTS.

Winds: N, 6; NE, 7; E, 2; SE, 3; S, 5; SW, 3; W, 1; NW, 2. Var. 1.

| | | |
|---|---|---|
| Barometer: | Greatest height | 30·36 in. |
| | Least | 29·12 in. |
| | Mean | 29·871 in. |
| Thermometer: | Greatest height | 85° |
| | Least | 34° |
| | Mean | 58·56° |
| | For 31 days, the sun in Gemini | 56·00° |
| Evaporation | | 2·89 in. |
| Rain | | 3·67 in. |

The hay harvest is most abundant, and vast quantities have been got in during the late fine weather. The wheats generally, throughout Sussex, look extremely well. In the neighbourhood of Chichester there is some already out in ear.—*Earlier Papers.*

*From the Chelmsford Chronicle, June* 26, 1824.—Thursday, [24th] at four o'clock in the afternoon, the inhabitants of the lower part of this town, in the more immediate vicinity of the river, were in a state of the greatest consternation for the safety of their property. A flood had come on since nine o'clock in the morning, which had risen to such a height, that a parallel can scarce be found on record.—The destruction of property to a large amount, in our vicinity alone, must be the consequence. It was painful indeed to some, to witness the cocks of grass and hay, buildings and fences, floating upon the face of the waters; but we do not all feel alike, as it produced from others loud acclamations. The only means of passing from the end of the Middle Row to the top of Moulsham, is by carriages and carts, which are plying with passengers continually. At the early part of the day, attempts were made to stem the current, and prevent its entering the town, and some persons imprudently shut their gates; this only added to the disasters of themselves and others, as the dams were soon forced. We forbear to enter into any detail of our fears, or reports respecting the crops of corn, which are said to be laid flat with the ground. The rain continues to fall; consolations, however, we have to offer; we have not heard of the loss of any lives; the weather-glass just now rises, which we are willing to construe, as our wishes lead us, that fine weather is not far distant, which, with a brisk wind, we hope will shortly enable the crops to resume their natural position.

*Six o'Clock.*—The waters have begun to recede. There are now twenty carts employed; all ranks of persons are seen to take advantage of them, to view the incursions of the waters through at least one hundred houses; the inmates of which are seen viewing the motley groups from their upper windows; and notwithstanding their pitiable situations, a smile will now and then escape them.

At present the river Chelmer has not caused any particular inconvenience to the inhabitants of Springfield; but it is not quite certain that the danger is past.—*Pub. Ledger.*

Advices from Dresden, dated June 29, say—"After long-continued rains, in consequence of circumstances that have taken place in Upper Bohemia, *but which are not yet known!* the Elbe has risen since the 24th, in a terrible manner, and is now sixteen feet above the usual level of the stream; the water is still

rising. The immense magazines of Bohemian timber on the left bank, were reached by the waters; and notwithstanding every exertion to save them, were this morning carried down the stream, under the bridge, in large piles. The Elbe is now covered with wood—entire stems and rafts. Other things of all kinds are brought down the river from distant parts. A floating mill, with several persons, was happily saved, near Meissen. The damage done by this inundation, just before the harvest, which looked so well, is immense. In several parts of this city and suburbs there is no passing, except in boats."

The late rains, which came seasonably in aid of the corn crop, have already made an astonishing change in the face of the country; natural or meadow grass has revived; hay will be deficient, and therefore earlier cut, in order to secure a greater advantage from the rains for the second crop. Wheat and barley are generally in the ear, and there is at present every prospect of an abundant harvest.—*Inverness Journal.*

Hop Intelligence.—*The Maidstone Gazette* says—The plantations continue to improve. The weak bine is not now likely to do much; but if we have a continuance of warm weather, there is every prospect of the strong bine making tolerable amends for the deficiency. We have heard of the appearance of a little mould, but it is extremely limited in its extent. The duty is estimated at £130,000.—*Pub. Ledger.*

## *Amounts of Rain at the surface compared with those at different elevations.*

Dr. Heberden (Philo. Trans. lix. Number 47) found that the quantities of rain falling in the year, from July 7, 1766, to the same date in 1767, were as follows. These observations at different heights were made, as appears, in Westminster.

| 1766. | Ground. | Top of a House. | Leads of Westminster Abbey. |
|---|---|---|---|
| July (in part) | 3·591 | 3·210 | 2·311 |
| Aug. —— | 0·558 | 0·479 | 0·508 |
| Sept. —— | 0·421 | 0·344 | |
| Oct. —— | 2·364 | 2·061 | 1·416 |
| Nov. —— | 1·079 | 0·842 | 0·632 |
| Dec. —— | 1·612 | 1·258 | 0·994 |
| 1767 | | | |
| Jan. —— | 2·071 | 1·455 | 1·035 |
| Feb. —— | 2·864 | 2·494 | 1·335 |
| March —— | 1·807 | 1·303 | 0·587 |
| April —— | 1·437 | 1·213 | 0·994 |
| May —— | 2·432 | 1·745 | 1·142 |
| June —— | 1·977 | 1·426 | 1·145 |
| July (remainder) | 0·395 | 0·309 | |
| Year | 22·608 | 18·139 | 12·099 in. |

The amount for the year is rather less than the average. I have quoted the whole, without vouching for the accuracy of the results *carried to the third place of decimals,* (though we have an ac-

count of means used to prevent loss by evaporation,) in order that the reader may compare it with my own experiments, made for twenty successive days at *Plaistow;* which he will find under Table LXIV, in the second volume of this work.

The Doctor adds: "The experiment has been repeated in other places with the same event;" but he enters no further into the consideration of the cause of the difference, than to conjecture that it may be a difference in the electrical state of the air, at different elevations.—L. H.

| 1824. | | Wind. | By Clock. | | Temp. | | Med. | Evap | Hygr. at 9 a. m. | Rain, &c. |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Max. | Min. | Max. | Min. | | | | |
| 7 mo. July | 1 | SW | 29·77 | 29·50 | 73° | 55° | 64·– | — | | 10 |
| | 2 | SW | 29·58 | 29·52 | 76 | 46 | 61· | — | | 5 |
| | 3 | NW | 29·70 | 29·58 | 72 | 54 | 63· | — | | 26 |
| | 4 | NW | 30·00 | 29·70 | 66 | 46 | 56· | — | | 2 |
| | 5 | NW | 29·99 | 29·82 | 72 | 54 | 63· | — | | 9 |
| | 6 | E | 29·86 | 29·81 | 66 | 56 | 61· | — | | 2 |
| | 7 | W | 30·00 | 29·81 | 70 | 56 | 63· | — | | 4 |
| | 8 | W | 30·01 | 29·90 | 77 | 61 | 69· | — | | |
| | 9 | SW | 29·94 | 29·87 | 82 | 55 | 68·5 | ·90 | | — |
| | 10 | NW | 30·08 | 29·94 | 75 | 49 | 62· | — | | |
| | 11 | W | 30·08 | 30·02 | 80 | 55 | 67· | — | | |
| | 12 | SW | 30·08 | 30·00 | 84 | 53 | 68·5 | — | | |
| | 13 | NW | 30·08 | 29·92 | 88 | 56 | 72· | — | | |
| | 14 | Var. | 29·90 | 29·82 | 85 | 59 | 72· | — | | 63 |
| | 15 | SW | 30·10 | 29·90 | 77 | 55 | 66· | ·95 | | |
| | 16 | NW | 30·25 | 30·10 | 77 | 55 | 66· | — | | 2 |
| | 17 | N | 30·30 | 30·25 | 77 | 53 | 65· | — | | |
| | 18 | N | 30·50 | 30·30 | 74 | 49 | 61·5 | — | | |
| | 19 | SW | 30·48 | 30·32 | 75 | 49 | 62· | — | | |
| | 20 | N | 30·32 | 30·27 | 74 | 51 | 62·5 | — | | |
| | 21 | N | 30·27 | 30·23 | 78 | 54 | 66· | ·78 | | |
| | 22 | E | 30·23 | 29·99 | 78 | 50 | 64· | — | | |
| | 23 | S | 29·99 | 29·80 | 82 | 54 | 67· | — | | |
| | 24 | NE | 29·84 | 29·80 | 78 | 52 | 65· | — | | |
| | 25 | NW | 29·93 | 29·90 | 77 | 54 | 65·5 | — | | |
| New M. | 26 | E | | | 73 | 52 | 62·5 | — | | 30 |
| | 27 | NE | | | 68 | 44 | 56· | — | | |
| | 28 | NE | | | 78 | 42 | 60· | ·95 | | |
| | 29 | E | 29·75 | 29·60 | 78 | 44 | 61· | — | | |
| | 30 | NE | 29·68 | 29·60 | 75 | 44 | 59·5 | — | | |
| | 31 | E | 29·90 | 29·64 | 76 | 56 | 66· | ·40 | | 15 |
| | | | 30·50 | 29·50 | 88 | 42 | 64·10 | 3·98 | | 1·68 |

Notes.—Seventh Mo. 1. Fine. 2—4. Showery. 5. Fine. 6. Cloudy, with showers. 7. Showery. 8, 9. Cloudy and fine. 10—12. Fine. 13. Fine: sultry. 14. Sultry: some thunder at intervals, with large drops of rain, during the day. About nine, a tremendous storm of thunder, lightning, and heavy rain: the lightning extremely vivid, and almost continuous from the NW to the SE by the S: the thunder abated between eleven and twelve; but the lightning was visible for several hours after. 15. Cloudy and fine. 16—22. Fine. 23. Sultry. 24, 25. Fine. 26. Cloudy: showery.

27. Cloudy. 28—30. Fine. 31. Cloudy: showers. [The observations wanting to the Clock are to be supplied as follows: 29·98, 29·93: 30·06, 29·93: 29·93, 29·75.]

## RESULTS.

Winds: N, 4; NE, 4; E, 5; S, 1; SW, 6; W, 3; NW, 7; Var. 1.

| | | |
|---|---|---|
| Barometer: | Greatest height | 30·50 in. |
| | Least | 29·50 in. |
| | Mean | 29·953 in. |
| Thermometer: | Greatest height | 88° |
| | Least | 42° |
| | Mean | 64·10° |
| | For 30 days, the sun in Cancer | 63·322° |
| Evaporation | | 3·98 in. |
| Rain | | 1·68 in. |

The *Kentish Gazette* says—"The storm on Wednesday evening [14th] was not confined to England alone, [though it was of great extent in the southern and western counties.] In the Channel, and on the coast of France, the disturbed element raged with terrific grandeur. Much agitation was felt on board the vessels coming up Channel, from whom signal guns were continually fired for pilots, the weather changing successively to the very opposite extremes. The boats which nightly leave the French coast, with expresses for England, did not on this occasion put to sea, so generally did an awful sensation prevail among the maritime people, and which particularly evinced itself in the more superstitious among the lower class of our continental neighbours."

### Extraordinary Agitation of the Sea.

*Pub. Ledger, July* 20, 1824.—About 10 p. m. on Tuesday, the 13th inst. wind ESE, light airs and variable; barom. 30 in., thermometer 70°, a sudden flux of the tide was observed [at Plymouth:] it rose several feet, and in its reflux, aided by the ebb, its rapidity was such as to sweep every thing before it. The chain-conductor of the flying bridge, on the Lairy, gave way, and for a time rendered its bridge useless; but by the exertions of the men it was soon repaired. However, about one o'clock, it being then near low water, the same occurrence again took place, and the bridge was again torn from its position. Boats, timber, &c. were swept away by the great flux and reflux of the tide, which continued at intervals until four o'clock on Wednesday morning, (being about three-quarters flood,) when it began to assume a more formidable and terrific appearance. The ordinary velocity of the tide being not more than two knots an hour, was now observed to run from seven to eight knots, at intervals of from thirteen to fifteen, and sometimes twenty minutes. As the time of high water approached, the flux and reflux was more powerful, and of longer duration, probably occasioned by the unfinished ends of the breakwater being at that time overflowed. From nine till about twelve o'clock, the river of Catwater was impassable, excepting by taking advantage of going with the current, and the same in returning. Boats were torn off the shore, and, in a few moments hurried out of sight. The appearance of the element now was truly wonderful; distant claps of thunder, heavy lowering clouds, some rising in different positions, and others floating in a horizontal direction, occasioned, no doubt, by the extraordinary variations of the wind blowing fresh in puffs from every quarter of the compass in a short space of time, with intervals of calm. Some idea of the extraordinary rapidity of the current may be conceived, when it is asserted, from the minutest observation, that the flux or *fresh* of the tide, at times, was two feet

two inches perpendicular in five minutes, and again actually made a reflux of three feet six inches in the same short space, tearing up the soil from the bottom of the river, the agitated thick surface of which resembled the boiling of a pot. The vessels at the Breakwater one minute were afloat, and the next lying high and dry on the body of the works—though it must appear strange, at the same time the sea in the offing was particularly smooth. About half-past two p. m. the tide began to resume its regular course.

*The Western Flying Post*, in alluding to the above circumstance, says:—"On Tuesday morning last, at intervals, until Wednesday morning, four o'clock, Plymouth was visited by a convulsion of the sea, producing a most extraordinary effect. The flux and reflux of the water in the harbour was so rapid that in less than five minutes the same space presented dry ground and a body of water two feet and a half in depth. Withoutside the victualling office the flux and reflux was even much more considerable. The most awful appearance was observed about four o'clock on Wednesday morning, when charged clouds were driven in various directions, accompanied by thunder, and the wind blowing from another part of the compass. The disturbance to boats and shipping in the Pool, was alarming—they were alternately a-ground and a-float, more than twice in five minutes. The oldest person now living does not recollect the "bower," or underswell, so violent. Before the last earthquake at Lisbon, and prior to a similar awful visitation at Sienna, in 1798, which swallowed up many thousand persons, similar phenomena were observed."

On Wednesday last, between ten and eleven o'clock in the morning, a very extraordinary re-action of the tide was observed to take place in Truro river. The mid banks which had been left dry by the ebbing of the tide, were instantaneously covered with water to the depth of from three to four feet, and such was the impetuosity of the rush, that a vessel lying on her larboard bilgway, across the channel, a little below the quay, was completely floated, and thrown in an opposite direction to that in which she had been left by the tide. In about ten minutes the water subsided. To what cause is so extraordinary a phenomenon to be attributed?—*Cornwall Gazette.*

A similar phenomenon occurred on Wednesday morning at Mount's Bay, where the atmosphere was charged with heavy clouds, attended with thunder and lightning. At one time, it blew a gale from different points of the compass for about a minute, then suddenly became calm. At the time of high water, about six a. m. the sea suddenly fell more than four feet, so that vessels which had been afloat grounded; and as it returned immediately they were afloat again. During the ebbing of the tide, the sea instantly rushed back upon the shore, floating boats that had been left aground, and instantly retiring left them dry again; this was repeated several times.—*Idem.*

*Christchurch, July* 17.—On Wednesday last two violent thunder-storms occurred on our coast, the first of which commenced at eight o'clock in the morning, and was so extremely sudden and violent, and attended with so many remarkable phenomena, as almost to induce a belief that some convulsion of nature had occurred. The tide in the bay rose violently, and receded so precipitately, as to alarm the fishermen and others who were exposed to its effects; and on the land the violent whirlwind which accompanied the storm raised such a quantity of dust, that the whole heavens were enveloped in dense clouds, so as to have an effect really awful and terrific.—*Salisbury Journal.*

*Weymouth, July* 15.—Yesterday morning one of the most violent storms of rain took place, accompanied by a tremendous clap of thunder, that we ever remember to have witnessed; previous to which the sea appeared in an extraordinarily convulsed state, and of a sudden approached the Esplanade wall, a distance of thirty yards from the water's edge, and again rushed back. During the short period of this phenomenon, a small vessel approaching the harbour was seen to lie aground on the same spot as the packet had a few minutes before passed over with a flowing sheet. During the thunder storm, attended with vivid flashes of lightning, a ball of fire passed through the roof of a cottage occupied by Mr. W. Stone of Wyke Regis. Part of the tiling was demolished, and the lightning split a gun in three pieces, did much injury to the interior, burnt the window curtains, and broke a quantity of china. Fortunately all the family were absent. The tide rose three feet in the short space of one minute, and reflected in the same period of time. This convulsion is supposed to be the effect of an earthquake in some quarter of the globe.

At Southampton, on Wednesday last, they experienced the effects of a most

violent storm of thunder, lightning, and rain, at seven in the morning. It was seen to approach from the south-east; from that time until nine it was seen advancing with awful grandeur, at which time the whole element became darkened in an extraordinary degree, the birds retired to roost, and a dead silence prevailed through the town. The rain soon after poured down in torrents, with dreadful gusts of wind. The storm continued with little abatement, until two in the afternoon.

*Portsmouth, July* 14.—Wind variable. It has been very squally the whole of this day, with heavy thunder storms.—As the Baltic, merchant transport, Robt. Holman, master, with the 75th regiment on board, bound to Ireland, was this morning endeavouring to get out of harbour, in a perfect calm, with all sail set, a sudden gust of wind heeled her considerably down on her side, and carried overboard her topgallant-mast with the sail, and a man on the yard. The man was providentially saved, and no other damage done.

The Nottingham Paper says:—"The weather, during the week, has been remarkably fine; there has been but very little rain—even the wet St. Swithin forgot to drop a tear. Much hay has been well got up. The crops of corn are rapidly improving, and in as fine a state as can be wished.—*July* 20, 1824.

The heat of the weather in France appears to be extreme. Persons of both sexes, labouring in the fields, have dropped down dead from the heat; birds also have fallen dead from the same cause, both in France and Spain. In the latter country vegetation has been ruined to an alarming extent.

*Lisbon, July* 19.—This morning a slight shock of an earthquake was felt in this city. We have had intense heat for these three days; Farhenheit's thermometer has been 100° in the shade.

On the 17th and 18th, Fahrenheit's thermometer, in the open air and the shade, was from 92° to 96° at two o'clock; and 79° to 83° at midnight. On the 19th, exposed to a hot wind from the north-east, it rose to 105. This burning wind did immense damage. This wind was so hot, that the thermometer exposed to it was, even at midnight, at 91°; on the morning of the 20th it fell to 83°, rose at two p. m. to 103°, and at midnight was again at 83°. On the 21st and 22d a sea-breeze from the south-west cooled the air, so that the thermometer was only at 81°, and 76° in the hot hours, and fell at midnight to 73° and 68°.

It is to be noticed, that the thermometer in the open air, but sheltered from the north-east, did not rise on the 19th to above 100°.

It is impossible to calculate exactly the damage done by the terrible phenomenon of the 19th. We can state, however, that the vines, in elevated situations exposed to the NE, entirely lost the abundant fruit with which they were loaded.

We are informed, that a great many persons working in the fields were mortally struck with the malignant influence of this excessive heat. Many animals shared the same fate; the leaves of the trees and other plants were completely dried up.

On Wednesday night a dreadful storm of thunder and lightning passed over Chelmsford in a direction from south to north. The lightning was extremely vivid, and kept the streets in one continued blaze. The thunder, rain, and hail also passed over Harlow, Sawbridgeworth, Birchhanger, and Much Easton, taking a north-east course, the full extent of the destructive effects of which have not yet reached us, further than that the pieces of ice which fell, in some instances, measured five inches in circumference, and that dreadful devastation to corn, to windows, green-houses, and other exposed property, were the consequence. The west front of the mansion of Lord Maynard, at Great Eiston, and that of Baron Filitze, at Birchhanger, have scarce a whole pane of glass left in them. The storm is supposed to have extended five miles in breadth. It did not reach Great Dunmow, at which place the hay-carting was uninterrupted.

At Binster, between Banbury and London, two cows and a bull were killed by the lightning, several houses were unthatched, chimnies thrown down, and much mischief done.—*P. L. July* 17, 1824.

| 1824. | | Wind. | By Clock. | | Temp. | | Med. | Evap | Hygr. at 9 a. m. | Rain, &c. |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Max. | Min. | Max. | Min. | | | | |
| 8 mo. Aug | 1 | NW | | | 63° | 43° | 53· | — | | 10 |
| | 2 | NW | | | 75 | 55 | 65· | — | | — |
| | 3 | SW | 29·90 | 29·70 | 75 | 56 | 65·5 | — | | 11 |
| | 4 | N | 29·70 | 29·63 | 72 | 58 | 65· | — | | 6 |
| | 5 | NW | 29·74 | 29·63 | 70 | 55 | 62·5 | — | | 3 |
| | 6 | SW | 29·89 | 29·74 | 69 | 48 | 58·5 | — | | 2 |
| | 7 | N | 29·88 | 29·70 | 75 | 52 | 63·5 | — | | 6 |
| | 8 | SW | 29·77 | 29·70 | 70 | 62 | 56· | — | | 4 |
| | 9 | W | 29·85 | 29·77 | 73 | 52 | 62·5 | — | | |
| | 10 | W | 29·77 | 29·69 | 75 | 60 | 67·5 | ·95 | | — |
| | 11 | SW | 29·83 | 29·76 | 75 | 56 | 65·5 | — | | |
| | 12 | SW | 29·88 | 29·83 | 75 | 52 | 63·5 | — | | |
| | 13 | NW | 29·90 | 29·85 | 73 | 47 | 60· | — | | 60 |
| | 14 | NW | 29·85 | 29·52 | 69 | 52 | 60·5 | — | | |
| | 15 | SW | 29·85 | 29·55 | 64 | 47 | 55·5 | — | | 56 |
| | 16 | W | 29·85 | 29·68 | 70 | 50 | 60· | — | | |
| | 17 | SW | 29·68 | 29·60 | 70 | 52 | 61· | — | | 12 |
| | 18 | W | 29·81 | 29·65 | 66 | 56 | 61· | ·90 | | 15 |
| | 19 | NW | 29·85 | 29·80 | 69 | 55 | 62· | — | | 5 |
| | 20 | S | 29·90 | 29·80 | 71 | 59 | 65· | — | | 4 |
| | 21 | NW | | | 72 | 52 | 62· | — | | 7 |
| | 22 | N | | | 70 | 49 | 59·5 | — | | |
| | 23 | N | 30·22 | 30·05 | 72 | 46 | 59· | — | | |
| New M. | 24 | NE | 30·32 | 30·22 | 67 | 48 | 57·5 | — | | |
| | 25 | N | 30·37 | 30·30 | 76 | 49 | 62·5 | — | | |
| | 26 | NE | 30·34 | 30·25 | 73 | 52 | 62·5 | — | | |
| | 27 | NE | 30·25 | 30·00 | 73 | 55 | 64· | ·75 | | |
| | 28 | NE | 30·00 | 29·90 | 77 | 50 | 63·5 | — | | |
| | 29 | E | 29·90 | 29·87 | 82 | 53 | 66·5 | — | | |
| | 30 | SE | 29·95 | 29·87 | 80 | 60 | 70·– | — | | — |
| | 31 | N | 30·03 | 29·95 | 76 | 55 | 65·5 | ·35 | | |
| | | | 30·37 | 29·52 | 82 | 43 | 62·40 | 2·95 | | 2·01 |

Notes.—Eighth Mo. 1. A gentle rain till noon. 2. Fine. 3. Fine day: rain at night. 4—7. Cloudy. 8. Cloudy, with showers. 9. Fine. 10. Cloudy and fine. 11, 12. Fine. 13. Showery. 14. Fine. 15. Rainy. 16. Fine. 17. Fine day: rain at night. 18. Day fine: a thunder-storm about 6 p. m. 19. Cloudy. 20. Overcast. 21. Showery. 22—31. Fine. [Barom. Obs. to be supplied:—30·00, 29·90: 30·00, 29·90: 30·00, 29·90: 30·05, 30·00.]

## RESULTS.

Winds: N, 6; NE, 4; E, 1; SE, 1; S, 1; SW, 7; W, 4; NW, 7.

| | | |
|---|---|---|
| Barometer: | Greatest height | 30·37 in. |
| | Least | 29·52 in. |
| | Mean | 29·832 in. |
| Thermometer: | Greatest height | 82° |
| | Least | 43° |
| | Mean | 62·40° |
| | For 31 days, the sun in Leo | 62·338° |
| Evaporation | | 2·95 in. |
| Rain | | 2·01 in. |

*The Kentish Chronicle* says:—"On Wednesday evening, [18th August,] a most tremendous discharge of electric matter took place near the town of Folkestone; the lightning passing in a direction from west to east, entered by the parlour window the house of Mr. Henry Jeffery, (situated at about a quarter of a mile from the town,) and knocked down his eldest daughter, who was standing near the window; it then passed out of the parlour-door, which was open, through a passage to the kitchen, where it entered a cupboard, and passed upwards to a closet in the chamber, where it is supposed it left by the window, which was open, as its progress could not be traced beyond the chamber. Five other persons were in the room at the time, who did not receive any injury; and we are happy to add, Miss Jeffery is so much recovered as to be able to walk; her frock, which was bombazine, was much torn, and one of her shoes split open on each side."

| 1824. | | Wind. | By Clock. | | Temp. | | Med. | Evap | Hygr. at 9a. m. | Rain, &c. |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Max. | Min. | Max. | Min. | | | | |
| 9 mo. Sept. | 1 | SE | 30·07 | 30·01 | 85° | 56° | 70·5 | — | | |
| | 2 | E | 30·00 | 29·95 | 86 | 54 | 70· | — | | |
| | 3 | NE | 29·95 | 29·86 | 80 | 64 | 72· | — | | 10 |
| | 4 | W | 29·85 | 29·70 | 75 | 52 | 63·5 | — | | |
| | 5 | W | 29·70 | 29·40 | 72 | 55 | 63·5 | — | | |
| | 6 | SE | 29·50 | 29·40 | 72 | 56 | 64· | ·77 | | 14 |
| | 7 | SW | 29·50 | 29·35 | 72 | 53 | 62·5 | — | | 1·05 |
| | 8 | S | 29·67 | 29·40 | 66 | 48 | 57· | — | | 14 |
| | 9 | W | 29·80 | 29·67 | 66 | 48 | 57· | — | | 34 |
| | 10 | NW | 29·77 | 29·60 | 68 | 54 | 61· | — | | 54 |
| | 11 | SW | 29·67 | 29·59 | 70 | 57 | 63·5 | — | | 32 |
| | 12 | SW | 30·10 | 29·60 | 68 | 48 | 58· | — | | 4 |
| | 13 | SW | 30·10 | 30·02 | 70 | 52 | 61· | — | | |
| | 14 | S | | | 72 | 63 | 67·5 | — | | 3 |
| | 15 | SW | | | 73 | 53 | 63· | — | | |
| | 16 | N | | | 72 | 55 | 63·5 | ·75 | | |
| | 17 | E | 30·25 | 30·17 | 72 | 59 | 65·5 | — | | |
| | 18 | NE | 30·17 | 30·06 | 75 | 58 | 66·5 | — | | |
| | 19 | W | 30·06 | 29·90 | 67 | 55 | 61· | — | | 24 |
| | 20 | N | 29·90 | 29·80 | 63 | 45 | 54· | — | | 12 |
| | 21 | W | 29·90 | 29·80 | 60 | 46 | 53· | — | | 2 |
| New M. | 22 | NW | 30·00 | 29·80 | 65 | 53 | 59· | — | | 12 |
| | 23 | NE | 30·05 | 29·90 | 65 | 52 | 58·5 | — | | |
| | 24 | N | 30·00 | 29·90 | 66 | 52 | 59· | — | | — |
| | 25 | NW | 30·04 | 30·00 | 60 | 39 | 49·5 | — | | — |
| | 26 | NW | 30·00 | 29·90 | 50 | 37 | 43·5 | — | | 17 |
| | 27 | NE | 30·06 | 29·90 | 48 | 34 | 41· | — | | 19 |
| | 28 | NW | 29·78 | 29·47 | 52 | 27 | 39·5 | — | | |
| | 29 | SE | 29·91 | 29·78 | 61 | 43 | 52· | — | | |
| | 30 | S | 29·87 | 29·53 | 70 | 52 | 56· | 80· | | 21 |
| | | | 30·25 | 29·35 | 86 | 27 | 59·35 | 2·32 | | 3·77 |

Notes.—Ninth Mo. 1, 2. Fine. 3. Cloudy: a few drops of rain at one p. m.: a shower in the night. 4. Cloudy and fine. 5. Fine. 6. Morning showery: afternoon fine. 7. Showery: very wet night, with thunder and lightning. 8—11. Showery. 12. Showery morning: afternoon fine. 13—18. Fine. 19. Cloudy. 20. Showery morning: fine afternoon. 21, 22. Cloudy. 23. Fine. 24, 25. Showery. 26. Fine. 27. Showery: a clap of thunder at half-past three, p. m. followed immediately by a heavy shower of hail of the size of peas: rain afterwards with thunder: the quantity of hail was sufficient to cover the ground in places. 28—30. Fine.

## RESULTS.

Winds: N, 3; NE, 4; E, 2; SE, 3; S, 3; SW, 5; W, 5; NW, 5.

| | | |
|---|---|---|
| Barometer: | Greatest height | 30·25 in. |
| | Least | 29·35 in. |
| | Mean | 29·861 in. |
| Thermometer: | Greatest height | 86° |
| | Least | 27° |
| | Mean | 59·35° |
| | For 31 days, the sun in Virgo | 62·870° |
| Evaporation | | 2·32 in. |
| Rain | | 3·77 in. |

The Barometrical observations wanting in the Tables are as follows: 30·05, 30·02; 30·14, 30·05; 30·24, 30·14. They are by the Barometer at the Laboratory.

*Deal, Sept.* 17.—Wind NE.—There has been a thick fog all the day. No arrivals nor sailings.

The metropolis was, at one o'clock yesterday morning, visited by a violent storm of lightning and rain. The flashes were peculiarly vivid, and the claps of thunder the loudest we ever heard. The fall of rain was *immense*, [see however the *measure* on the opposite page,] and in a short time the streets, in several places, were completely impassable.—*Pub. Ledger, Sept.* 9.

[Violent thunder-storms are reported in the public prints as having occurred lately in other parts of the island: the following account details some remarkable effects of lightning in a house, with a most extraordinary instance of preservation; the date is not clear.]

About eleven o'clock on the forenoon of Sunday week, the village of Campbeltown, Ardersier, was visited by a thunder-storm, accompanied by torrents of rain, which lasted nearly half an hour. The thunder was heard in a circuit of upwards of twenty miles; but the rain fell very partially. The house at Milton of Comage, which belonged to the late Will. Bremner, and is now occupied by one of his daughters, was struck by the lightning.—The chimney-stack at the west-end of the house was thrown down, and the gable-wall rent nearly to the foundation; a large stone in the angle of the fissure was pounded into sand; the electric fluid seems to have entered in three streams, there being so many holes in the line of the rent, enlarging inwards. A box which lay in the room near one of the holes was shivered to pieces, and a handkerchief and some caps which it contained were burnt; the glass and gilt ornaments of a clock in the room were broken, and the works injured; the electric fluid appears to have escaped by the window, in which the greater part of the glass was broken; there was *a circular hole, about the size of a musket-ball*, in one of the panes, without a crack in the glass; a great part of the ceiling of the room fell, it is supposed, by the shock. The window of a room in the attic story was completely smashed, the brass nails in the chairs were extracted, and driven into the side of a chest on the opposite side of the room with such force, that some of them can with difficulty be drawn out; the nails could not be more regularly taken out of the chairs by an upholsterer, without injuring the hair-cloth coverings of the

cushions; the foot of one of the chairs was shivered, and the splinters stuck in the door of the room; the door-posts were shattered. The respectable female inhabitant was sitting in the kitchen, between the fire-place and the window; the electric fluid appears to have come down the chimney, ploughed up the clay floor in front of her chair, with such violence that the ceiling is spotted with it, passed by her side to the wall, along which it ran at her back, breaking the stones, and again rose and escaped by the window, in which there is only one pane broken; thus playing about and approaching close to her person, yet she miraculously escaped uninjured. She was enveloped in a cloud of dust, and thought, from the noise, the house was falling. No further trace of the lightning has been observed about the premises, with the exception of the chimney-stack of a back wing having been shattered.—*Pub. Ledger, Sept.* 10.

*Bursting of a Bog.*

On Thursday the 2d inst. [Sept.] at Haworth, in the West Riding of Yorkshire, and on the borders of Lancashire, about six o'clock in the evening, a part of the high lands on Stanbury Moor opened into a chasm, and sunk to the depth of six yards, in some places exhibiting a rugged appearance, and forming two principal cavities—the one was about two hundred yards, and the other not less than six hundred yards in circumference. From these hollows issued muddy water, for about two hours, in an overwhelming flood, from forty to fifty (sometimes seventy) yards in width, and seldom less than four yards in depth. This dark slimy mixture followed the course of a rivulet, overflowing its banks for twenty or thirty yards on each side, to the distance of seven or eight miles; all this way was deposited a black moorish substance, varying from eight to thirty-six inches in depth, and mixed occasionally with sand and rocky fragments, pieces of timber, and uprooted trees. This heavy and powerful stream broke down one solid stone bridge, made breaches in two others, clogged up and stopped several mills, laid flat and destroyed whole fields of corn, and overthrew walls to the foundation and hedges. In its course it entered the houses, floating the furniture, to the astonishment and terror of the inhabitants. At the time of the eruption there was loud and frequent thunder, with much zigzag lightning, peculiarly flaring and vivid; an hour before there was scarcely a breath of air stirring, but the wind quickly rose to a hurricane, and after blowing hard from six to eight o'clock, sunk again into a profound calm, at which time *the heavy rain, which had continued all the while*, ceased, and with the exception of a few floating clouds, the sky was serene. The river *Aire*, at Leeds, presented the effects of this phenomenon last Friday afternoon; the water that came down the river was in such a polluted state, as to have poisoned great quantities of fish; and continuing turbid, has become useless for culinary purposes, as well as for dyers, &c.—*Pub. Ledger.*

*Fire kindled by Rain.*

*The Tyne Mercury* says:—During the heavy rain on Wednesday, the 8th inst. at the bleach-mill belonging to Mr. Thomas Pickering, at Commondale, near Jedburgh, an outhouse with its contents, a cart, waggon, ploughs, &c. were all nearly destroyed *by the rain communicating with some unslacked lime* contained in the building, which soon ignited, and the fire had made considerable progress before it could be overcome.

*The Harvest.*

Extract of a letter from Dover, dated September 2, says:—The harvest in the neighbourhood of Dover, and indeed generally on the road to London, is reckoned the finest that has been known for twenty years.

The wheat in this county has been nearly all housed, and in the very best condition: a more prolific harvest was probably never known. If a hundred guineas were offered for as many ears of *smutty* wheat, it is doubtful whether they could be found in the county of Dorset.—*Dorset Chronicle.—P. L. Sept.* 4, 1824.

| 1824. | Wind. | By Clock. Max. | By Clock. Min. | Temp. Max. | Temp. Min. | Med. | Evap | Hygr. at 9 a. m. | Rain, &c. |
|---|---|---|---|---|---|---|---|---|---|
| 10 mo. Oct. 1 | SE | 29·50 | 28·97 | 68° | 43° | 55·5 | — | | 16 |
| 2 | S | 29·20 | 28·96 | 63 | 53 | 58· | — | | 6 |
| 3 | S | 29·75 | 29·20 | 65 | 44 | 54·5 | — | | |
| 4 | E | 29·80 | 29·75 | 65 | 53 | 59· | — | | 6 |
| 5 | NE | 29·75 | 29·57 | 64 | 45 | 54·5 | — | | 9 |
| 6 | E | 29·57 | 29·38 | 64 | 47 | 55·5 | — | | 37 |
| 7 | SW | 29·38 | 29·15 | 56 | 45 | 50·5 | — | | 15 |
| 8 | SW | 29·25 | 29·15 | 69 | 52 | 60·5 | — | | |
| 9 | W | 29·47 | 29·25 | 63 | 48 | 55·5 | — | | |
| 10 | E | 29·60 | 29·47 | 53 | 47 | 50· | — | | 53 |
| 11 | SE | 29·55 | 28·80 | 60 | 43 | 51·5 | — | | 12 |
| 12 | NE | 28·85 | 28·75 | 55 | 37 | 46· | — | | 11 |
| 13 | NW | 29·30 | 28·75 | 45 | 28 | 36·5 | — | | |
| 14 | NW | 29·50 | 29·30 | 50 | 29 | 39·5 | — | | |
| 15 | NW | 29·60 | 29·50 | 48 | 28 | 38· | — | | — |
| 16 | NW | 29·75 | 29·60 | 48 | 26 | 37· | — | | |
| 17 | W | 29·97 | 29·75 | 50 | 25 | 37·5 | — | | — |
| 18 | W | 30·10 | 29·97 | 50 | 35 | 42·5 | ·80 | | |
| 19 | SW | 30·12 | 30·05 | 52 | 31 | 41·5 | — | | — |
| 20 | W | 30·05 | 29·97 | 56 | 36 | 46· | — | | |
| 21 | SE | 30·02 | 29·97 | 60 | 36 | 48· | — | | |
| New M. 22 | SE | 29·97 | 29·87 | 61 | 51 | 56· | — | | |
| 23 | NW | 29·87 | 29·81 | 62 | 45 | 53·5 | — | | |
| 24 | SE | 29·92 | 29·78 | 63 | 53 | 58· | — | | — |
| 25 | SW | 29·78 | 29·49 | 61 | 50 | 55·5 | — | | 17 |
| 26 | W | 29·51 | 29·15 | 57 | 37 | 47· | — | | — |
| 27 | W | 29·40 | 29·15 | 58 | 37 | 47·5 | — | | |
| 28 | W | 29·62 | 29·40 | 55 | 48 | 51·5 | — | | |
| 29 | NE | 29·65 | 29·59 | 55 | 40 | 47·5 | — | | 27 |
| 30 | W | 29·77 | 29·50 | 48 | 35 | 41·5 | — | | |
| 31 | SW | 30·18 | 29·77 | 50 | 45 | 47·5 | ·65 | | 28 |
| | | 30·18 | 28·75 | 69 | 25 | 49·11 | 1·45 | | 2·37 |

Notes.—Tenth Mo. 1. Rainy. 2. Showers. 3, 4. Fine. 5, 6. Rainy. 7. Rainy: a very distinct lunar rainbow at 8 p. m. 8. Fine: a lunar corona. 9. Fine. 10—12. Rainy. 13, 14. Fine. 15. Foggy morning: drizzly afternoon. 16. White frost: fine. 17. Ditto. 18. Foggy morning: fine. 19. Cloudy and fine. 20, 21. Fine. 22, 23. Cloudy. 24. Fine. 25. Cloudy. 26. Showers. 27, 28. Fine. 29. Rainy. 30. Fine. 31. Rainy.

## RESULTS.

Winds: NE, 3; E, 3; SE, 5; S, 2; SW, 5; W, 8; NW, 5.

| | | |
|---|---|---|
| Barometer: | Greatest height | 30·18 in. |
| | Least | 28·75 in. |
| | Mean | 29·557 in. |
| Thermometer: | Greatest height | 69° |
| | Least | 25° |
| | Mean | 49·11° |
| | For 30 days, the sun in Libra | 49·25° |
| Evaporation | | 1·45 in. |
| Rain | | 2·37 in. |

*Penzance, Oct.* 11.—For the last two or three days we have had nothing but gales of wind, with much lightning, and torrents of rain. The wind is now about east, blowing a storm, accompanied with a very heavy sea.

*Liverpool, Oct.* 11.—The wind, during the whole of last night and to-day, has blown hard from east by north.

*Dublin, Oct.* 11.—It has blown a hurricane these two days at ENE.

*Belfast, Oct.* 11.—It blew a tremendous gale last night at east.

*Waterford, Oct.* 11.—Wind ENE to NE, thick, with very heavy gales.

*Plymouth, Oct.* 13.—Wind W.

*Portsmouth, Oct.* 14.—Wind NE.

*Dumfries, Oct.* 19.—Winter has come upon us prematurely, and before we were prepared for his visit. A fall of snow in the middle of October, is rather unusual in our climate; yet early in the morning of Sunday last, the earth every where was as completely whitened as ever we saw it in the depth of winter. In some places the snow lay to the depth of several inches, and most persons must have been astonished on awaking in the morning, at the suddenly altered aspect of nature. Every where the snow froze as it fell: and, bating the idea of cold they excited, the trees and bushes, festooned to the bottom and feathered to the top, had a very picturesque appearance. Fortunately the storm was of short continuance; for the truth is, the farmer has yet a good deal to do. The potatoes are only half raised, and winter wheat but partly sown. The frost at one time was pretty intense, so much so as to injure the potatoes wherever they were very near the surface, or left upon the ground.

*St. Petersburgh, Oct.* 23.—We have had slight frosts and much snow for this week past. If no early change occurs, our river will soon be full of ice, and the navigation here interrupted.

*Liverpool, Oct.* 26.—The wind early this morning was moderate from S by E; at 11 a.m. it came round suddenly to WNW, and blew a tremendous gale, continuing until half-past 12 p.m. This evening moderate. The shipping in the Docks have received injury, more or less, in losses of bowsprits, yards, &c. The windmills have likewise received considerable damage, several of them having lost their sails, and fears are entertained of further disastrous intelligence from the coast.

*St. Petersburgh, Nov.* 11.—A gale of wind from the south, last night, has driven all the ice to the northward, and cleared the Channel in every direction, but unfortunately a quantity of ice has drifted into the Mole, and choaked up the west side entirely.

*Extraordinary Rains in Yorkshire.*

*Ackworth*, 1824.—The most remarkable falls of rain that I have yet witnessed, in any place, have occurred this year in this neighbourhood. The register kept at the school, at my instance, by William Hattersley, the office clerk, gave for the *Ninth* month, 6·36 in.; and for the Tenth, 6·07 in., making together *about the average quantity for half a year.* The guage was one of my own furnishing, placed at the level of the ground, and I have every reason to believe the observations accurate. It should be noted also, that there fell at Ackworth, in the whole eight months preceding, only 12·32 inches, above a third of which belongs to fourteen days in the latter half of the Sixth month.

The effects produced on the country left no doubt of the truth of this large measure in the guage. The whole mass of the land, ordinarily a very dry district, was saturated with it: springs broke out, and ran copiously in places where they had not before appeared: the little *Went*, which creeps through the valley opposite my house, commonly in a deep-worn channel, like "the sullen *Mole*, that runneth underground," now spread itself, again and again, over the meadows, with the air of a navigable river; and although its waters did not remain long with us in that state, they doubtless contributed to the more serious floods below.

On first coming hither, in 1822, I had sunk a pretty deep well on my premises, and obtained water in the sandstone, which on being freely pumped became *chalybeate.* This I attributed to the entrance into the vein of a strong chalybeate spring, situate in the valley below us. The present season fully confirmed my conjecture; for there came so much water from above, through the rock, that *our* well lost its ferruginous character entirely for the time. It will be seen on comparison, that there fell at *Stratford*, in these two months, not above half the quantity of water which came down on this district. On the other hand, in the *Fifth*, *Seventh*, and *Eighth* months, they had more than thrice the quantity of rain that fell here.—L. H.

*Effects of bad Weather on Sheep.*

One of the papers of this autumn had the following paragraph:—"Severe losses have been sustained by the graziers from the late continued rains: many thousands of sheep have taken the distemper and died already. Three respectable graziers in the neighbourhood of *Tenterden*, [Kent,] estimate their loss at near two thousand sheep: several have even died in Ashford market. We hear that one hundred sheep were, on one occasion, sold for twenty pounds."

Namque urget ab alto
Arboribusque, satisque, Notus, *pecudique* sinister.—VIRGIL.

The poet from whom I quote this, doubtless knew what the *rot* in sheep was, by his own experience; and since I became a small farmer I have had occasion to know it myself!—L. H.

### *Colours of the Planets.*

Pliny, in his Natural History, book II. xvi. 18, gives the following curious account of the colours of the sun, and other planets.

" Colores ratio altitudinum temperat: siquidem earum similitudinem trahunt in quarum aera venêre subeundo, tingitque adpropinquantes utrolibet alieni meatûs circulus. Frigidior in pallorem, ardentior in ruborem, ventosus in horrorem. Sol atque commissuræ absidum, extremæque orbitæ, atram in obscuritatem.

" Suus quidem cuique color est: Saturno *candidus,* Jovi *clarus,* Marti *igneus,* Lucifero *candens,* Vesperi *refulgens,* Mercurio *radians;* Lunæ *blandus,* Soli cum oritur *ardens,* postea radians. His causis connexo visu et earum quæ cœlo continentur."

The colours (he says) are according to the altitudes: for they take the tint of the region into which they have come in their course—the air of which gives them its own colour as they approach. A cold region communicates paleness, a hot one redness, a windy one a death-like blueness. The sun's light, their extreme distance in their orbits, and the touching of these [in eclipses] makes them quite dark.

They have however their several proper colours: Saturn is *white,* Jupiter *bright,* [silvery,] Mars *red,* Lucifer [the morning star] *whitish,* Hesperus [the evening star] is *refulgent,* Mercury *radiant,* the moon has a soft mild brightness: the sun rises as if it were red hot, and afterwards dazzles the eye. We are to take into account with these, the effect of other objects in the sky with which we compare them.

# TABLE CCXXII.

| 1824. | Wind. | By Clock. | | Temp. | | Med. | Evap | Hygr. at 9 a. m. | Rain, &c. |
|---|---|---|---|---|---|---|---|---|---|
| | | Max. | Min. | Max. | Min. | | | | |
| 11 mo. Nov. 1 | W | 30·10 | 29·57 | 58° | 50° | 54· | — | | 1 |
| 2 | SW | 29·70 | 29·53 | 48 | 40 | 44· | — | | |
| 3 | W | 29·78 | 29·59 | 48 | 34 | 41· | — | | |
| 4 | N | 29·80 | 29·69 | 44 | 32 | 38· | — | | |
| 5 | NW | 29·80 | 29·70 | 46 | 25 | 35·5 | — | | |
| 6 | W | 30·07 | 29·70 | 55 | 25 | 40· | — | | |
| 7 | W | 30·10 | 29·90 | 57 | 50 | 53·5 | — | | |
| 8 | W | 29·90 | 29·60 | 50 | 34 | 42· | — | | |
| 9 | NW | 29·92 | 29·55 | 55 | 37 | 46· | — | | 12 |
| 10 | W | 30·00 | 29·80 | 56 | 50 | 53· | — | M | 25 |
| 11 | NW | 29·82 | 29·70 | 56 | 42 | 49· | — | | 60 |
| 12 | NW | 29·90 | 29·71 | 50 | 40 | 45· | — | | — |
| 13 | W | 30·00 | 29·90 | 55 | 45 | 50· | — | | 25 |
| 14 | NW | 29·95 | 29·40 | 50 | 35 | 42·5 | — | | 3 |
| 15 | NW | 29·70 | 29·42 | 45 | 32 | 38·5 | — | | — |
| 16 | W | 30·20 | 29·70 | 51 | 38 | 44·5 | — | | |
| 17 | SW | 30·20 | 29·80 | 58 | 52 | 55· | ·95 | | 6 |
| 18 | SW | 29·80 | 29·30 | 55 | 48 | 51·5 | — | | 28 |
| 19 | SW | 29·70 | 29·25 | 50 | 39 | 44·5 | — | | 40 |
| New M. 20 | SE | 29·70 | 29·40 | 53 | 43 | 48· | — | | 34 |
| 21 | W | 29·40 | 29·27 | 53 | 40 | 46·5 | — | | 38 |
| 22 | SW | 29·30 | 29·27 | 52 | 42 | 47· | — | | 16 |
| 23 | S | 29·34 | 28·40 | 52 | 42 | 47· | — | | 15 |
| 24 | SW | 28·80 | 28·30 | 52 | 40 | 46· | — | | |
| 25 | W | 29·10 | 28·80 | 50 | 31 | 40·5 | — | | 6 |
| 26 | NW | 29·58 | 29·10 | 48 | 30 | 39· | — | | |
| 27 | E | 29·70 | 29·58 | 53 | 36 | 44·5 | ·48 | | |
| 28 | SW | 29·75 | 29·60 | 53 | 47 | 50· | — | | 15 |
| 29 | SW | 29·60 | 29·05 | 52 | 38 | 45· | — | | 12 |
| 30 | SW | 29·48 | 29·05 | 52 | 43 | 47·5 | ·35 | | 46 |
| | | 30·20 | 28·30 | 58 | 25 | 45·61 | 1·78 | | 3·82 |

NOTES.—Eleventh Mo. 1. Cloudy. 2—6. Fine. 7. Fine: lunar halo. 8. Cloudy. 9. Fine. 10. Cloudy. 11. Rainy. 12. Fine. 13. Cloudy. 14. Rainy. 15. Cloudy and fine. 16. Fine. 17. Boisterous. 18—20. Rainy. 21. Fine day: rainy night. 22. Showers: windy: very boisterous night. 23. Stormy wind: continued to blow furiously all night. 24. Wind a little abated this morning: day fine. 25. Fine day: a heavy shower at half-past 5, p. m. 26. Fine. 27. Cloudy. 28. Cloudy: a boisterous wind all night. 29. Fine day: rain at night. 30. Rainy: windy.

## RESULTS.

Winds: N, 1; E, 1; SE, 1; S, 1; SW, 9; W, 10; NW, 7.

| | | |
|---|---|---|
| Barometer: | Greatest height | 30·20 in. |
| | Least | 28·30 in. |
| | Mean | 29·945 in. |
| Thermometer: | Greatest height | 58° |
| | Least | 25° |
| | Mean | 45·61° |
| | For 30 days, the sun in Scorpio | 47·050° |
| Evaporation | | 1·78 in. |
| Rain | | 3·82 in. |

A letter from Penzance, dated November 1, says:—"It has blown a heavy gale since last night from the NW, and the weather has been unusually boisterous."

*Dunbar, Nov.* 2.—During a tremendous gale from the westward to day, four vessels came to anchor near this harbour; in the evening the wind suddenly shifted to the northward, &c.

*Limerick, Nov.* 2.—For the last eight days we have had very heavy gales from WSW to WNW. It now blows a perfect storm at WNW.

*Whitby, Nov.* 3.—The schooner, Friends, of this port, during the gale last night, anchored between the Rock and the Bar. The crew were taken out by the life-boat, but have been put on board again, with the intent to cut and run for Scarborough. The sloop Jemima, of Sunderland, for Leith, has been towed in by the life-boat, with loss of sails, anchor, and cable.

*Liverpool, Nov.* 3.—Wind W, blowing fresh, with heavy squalls.

*Falmouth, Nov.* 3.—Wind W to NW.

*Portsmouth, Nov.* 4.—Wind WNW, blowing strong.

*Deal, Nov.* 4.—Wind NW to W.

A correspondent in *Paris*, in a letter dated the 8th inst. says:—"The rains throughout the continent of Europe have of late been heavy and unprecedented to a degree, and the damage done in various parts of the country is immense. At Paris the river Seine has swollen to a prodigious height, and inundated all its banks. At present, however, the weather is clear and settled, and the season mild—the thermometer of Fahrenheit at a medium of about 45°."—*November* 17.

*Falmouth, Nov.* 11.—Wind WSW, strong gales and thick weather.

*Liverpool Nov.* 13.—Wind WSW, blowing fresh.

*Plymouth, Nov.* 13.—Wind WSW, blowing a gale.

*Falmouth, Nov.* 13.—Wind SW, blowing strong, with thick weather.

A letter from Dover, dated November 14, says:—"The intercourse between this country and France, in consequence of the strong south-west gales, was very limited during the last week. For three days there was no other arrival than a great boat belonging to this place, which brought dispatches."

*Glasgow, Nov.* 16.—From the afternoon of Saturday to Sunday morning it blew a very severe gale of wind from SW to W.

*Liverpool, Nov.* 17.—During the last fortnight we have had continual gales of wind from SSW to NW, accompanied with heavy showers of hail and rain. The accounts from the neighbouring coast, of disasters, are not so much as might be expected; but it is feared we shall receive further.

*Liverpool, Nov.* 18.—The wind this morning blew a tremendous gale from the westward for upwards of two hours. This evening moderate at WNW.

*Falmouth, Nov.* 18.—Wind SSW. Last night it blew a heavy gale from SW to W.

*Portsmouth, Nov* 18.— Wind W. blowing a gale. The outward-bound appear to ride well. No arrivals nor sailings.

*Deal, Nov.* 18.—Wind W. During the whole of last night it blew very hard from SSW to SW, increasing this morning to a gale.

*Stockholm, Nov.* 19.—On the 13th and 14th the barometer was lower than ever remembered here. The next day the sky was clouded, and the weather extremely variable; but on the night of the 18th, we had a hurricane of unparalleled violence, which tore the ships in the harbour from their moorings, and dashed them against each other; houses were entirely unroofed, and travellers who left this city to-day, have been obliged to be preceded by labourers, with axes, to clear a way through the trees that have been blown down and blocked up the roads. We have similar accounts of the same *hurricane of the* 18*th* from Gottenburg, Veboy, in Jutland, &c.

*Isle of Man (Ramsay,) Nov.* 20.—During a very violent gale on the 17th inst. the Hope, Thomson, snapped her chain cable, and drifted to the north of the bay, &c.

Extract of a letter from Edinburgh:—"The last eight days have been an almost uninterrupted continuance of wind, rain, and darkness."—*P. L. Nov.* 20.

*Cardiff, Nov.* 22.—It blew a strong gale from SW to SSW. The outward-bound, which sailed on the 20th, have all put back.

*Lymington, Nov.* 23.— It has this night blown a most tremendous gale from SSW to SSE. The shipping in the River are most of them on shore, but not expected to sustain any material damage. The gale continues, and no boat can at present go down the River.

*Harwich, Nov.* 23.—It has blown a hard gale from SW.

*Yarmouth, Nov.* 23.—It has been blowing a gale at SE ever since two a. m. Several vessels have passed, but there has been so much sea, the boats dare not go off.

*Littlehampton, Nov.* 23.—It blew a most tremendous gale last night.

*Margate, Nov.* 23.—A brig was discovered, at day-light, on Margate Sands, and shortly afterwards went to pieces. Fears are entertained for the crew. It still blows a gale.

*Deal, Nov.* 23.—Wind SSW to SW. (Four p. m.)—During last night, and the whole of to-day, it has blown a most tremendous gale from SSW to SW, during which several of the outward-bound have returned.

*Falmouth, Nov.* 23.—Wind SSW, blowing a tremendous gale. The three packets which sailed yesterday have put back.

*Plymouth, Nov.* 23.—Wind SW. This has been one of the most violent gales ever witnessed here by the oldest inhabitant. The wrecks at this place are dreadful.

*Liverpool, Nov.* 24.—During the whole of last night and up to two p. m. this day, we have had a severe gale from the WNW. This evening moderate, but every appearance of a renewal.

Yesterday morning the metropolis was visited by a heavy wind from the SSW, which has been productive of much damage.—*P. L. Nov.* 24.

*Penzance, Nov.* 27.—Wind SW and NW, very changeable, blowing strong, with thick rain.

*Falmouth, Nov.* 28.—Wind SSW, strong gales and dirty weather.

*Plymouth*, *Nov.* 28.—Wind SSW to SW, blowing hard, with a high running sea. In consequence of the tempestuous weather, the unloading of cargoes from the wrecks have been much impeded. It is feared that the ships on shore will suffer much during the night, should the gale continue. Half-past Eight, Wind much abated.

*Lymington*, *Nov.* 29.—It is now blowing a strong gale from SSW.

*Portsmouth*, *Nov.* 29.—It blew a gale from SW to WSW the whole of this day.

*Harwich*, *Nov.* 29.—It blew a dreadful gale all last night, and has continued the whole of this day, from the SW, and has the appearance of a bad night. Several coasters and colliers have put in for shelter.—PAPERS.

| 1824. | | Wind. | By Clock. | | Temp. | | Med. | Evap | Hygr. at 9 a. m. | Rain, &c. |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Max. | Min. | Max. | Min. | | | | |
| 12 mo. Dec. | 1 | W | 29·40 | 29·05 | 43° | 30° | 36·5 | — | | |
| | 2 | SW | 29·56 | 29·20 | 45 | 32 | 38·5 | — | | 45 |
| | 3 | NW | 29·56 | 29·02 | 38 | 30 | 34· | — | | 6 |
| | 4 | NE | 29·64 | 29·20 | 38 | 31 | 34·5 | — | | 55 |
| | 5 | N | 29·50 | 29·28 | 40 | 27 | 33·5 | — | | |
| | 6 | SW | 29·90 | 29·50 | 44 | 31 | 37·5 | — | | 18 |
| | 7 | W | 29·84 | 29·40 | 42 | 35 | 38·5 | — | | |
| | 8 | W | 29·81 | 29·43 | 46 | 32 | 39· | — | | 6 |
| | 9 | W | 29·80 | 29·70 | 43 | 28 | 35·5 | — | | 20 |
| | 10 | NW | 29·80 | 29·50 | 42 | 24 | 33· | — | | |
| | 11 | SW | 30·10 | 29·90 | 42 | 38 | 40· | — | | 2 |
| | 12 | SW | 30·22 | 30·07 | 46 | 38 | 42· | — | | |
| | 13 | NW | 30·38 | 30·22 | 48 | 42 | 45· | — | | |
| | 14 | W | 30·45 | 30·33 | 48 | 41 | 45·5 | ·34 | | 1 |
| | 15 | SW | 30·45 | 30·06 | 48 | 38 | 43· | — | | 5 |
| | 16 | W | 30·06 | 29·75 | 44 | 35 | 39·5 | — | | |
| | 17 | NW | 30·00 | 29·86 | 42 | 37 | 39·5 | — | | 6 |
| | 18 | S | 30·12 | 30·00 | 47 | 42 | 44·5 | — | | |
| | 19 | W | 30·13 | 30·07 | 52 | 45 | 48·5 | — | | — |
| New. M. | 20 | SW | 30·07 | 29·28 | 53 | 33 | 43· | — | | 4 |
| | 21 | SW | 29·90 | 29·28 | 52 | 45 | 48·5 | — | | 10 |
| | 22 | SW | 29·90 | 28·80 | 50 | 26 | 38· | — | | 15 |
| | 23 | NW | 29·65 | 28·65 | 52 | 31 | 41·5 | — | | 35 |
| | 24 | SW | 29·94 | 29·65 | 50 | 39 | 44·5 | ·45 | | 20 |
| | 25 | W | 29·80 | 29·44 | 54 | 32 | 43· | — | | |
| | 26 | W | 29·65 | 29·40 | 48 | 35 | 41·5 | — | | |
| | 27 | SW | 30·15 | 29·65 | 52 | 42 | 47· | — | | — |
| | 28 | SW | 29·85 | 29·67 | 54 | 32 | 43· | — | | 50 |
| | 29 | N | 29·95 | 29·67 | 54 | 31 | 42·5 | — | | 6 |
| | 30 | W | 30·15 | 29·95 | 53 | 44 | 48·5 | — | | — |
| | 31 | W | 30·30 | 30·17 | 54 | 42 | 48· | ·45 | | 6 |
| | | | 30·45 | 28·65 | 54 | 24 | 41·20 | 1·24 | | 3·10 |

Notes.—Twelfth Mo. 1. Fine. 2. Fine morning: very rainy night. 3. Cloudy: rainy night. 4. Rainy. 5. Overcast. 6. Hoar frost: fine day. 7, 8. Fine. 9. Fine day: rainy night. 10. Fine. 11. Drizzling. 12. Fine. 13. Gloomy. 14. Very dark morning: gloomy day: drizzling evening. 15. Cloudy and fine: rain at night. 16. Fine. 17, 18. Drizzling. 19. Cloudy. 20. Squally. 21. Stormy. 22. Squally: an extraordinary rise of the barometer in the night. 23. Very fine. 24. Rainy morning, with high

wind: squally day. 25. Rainy morning: fine afternoon. 26. Fine. 27. Fine. 28. Rainy. 29. Very fine day. 30. Cloudy. 31. Drizzling.

## RESULTS.

Winds: N, 2; NE, 1; S, 1; SW, 11; W, 11; NW, 5.

| | | |
|---|---|---|
| Barometer: | Greatest height | 30·45 in. |
| | Least | 28·65 in. |
| | Mean | 29·77 in. |
| Thermometer: | Greatest height | 54° |
| | Least | 24° |
| | Mean | 41·20° |
| | For 29 days, the sun in Sagittarius | 41·259° |
| Evaporation | | 1·24 in. |
| Rain | | 3·10 in. |

*Falmouth*, *Dec.* 1.—Wind WSW, fresh breezes and clear weather.

*Plymouth*, *Dec.* 1.—Wind W. The shipping rode out the gale yesterday, without sustaining any damage.

*Portsmouth*, *Dec.* 2.—It continues to blow very hard from the SW. The outward-bound all appear to ride well.

*Deal*, *Dec.* 2.—Wind SW, fresh breezes and squally.

*Dec.* 3.—Five p. m. Wind W. to WSW, light breeze. In the course of the day most of the outward-bound sailed; but about four p. m. the wind again shifted to the west.

*Portsmouth*, *Dec.* 5.—Wind NE, blowing strong.

*Liverpool*, *Dec.* 6.—During the whole of last night we had the wind at NE, freezing excessively hard. This morning at eight p. m. it came round to south, and afterwards veered to WSW, and is this evening WNW, moderate.

*Falmouth*, *Dec.* 6.—Wind SW.

*Plymouth*, *Dec.* 6.—Wind NE and W. During the whole of yesterday it blew strong from the East, till towards noon to-day, it got round again to the west, and is now blowing very hard from that quarter.

*Portsmouth*, *Dec.* 21.—It has blown a heavy gale all day from SW to W, and continues unabated.

*Gravesend*, *Dec.* 22.—It has blown a hurricane all day from W by S.

*Cowes*, *Dec.* 29.—Wind NE. The wind being very light and unsettled, none of the vessels, bound foreign, have got under weigh.

*Harwich*, *Dec.* 29.—Wind NE. Several coasters that have been in here for shelter, sailed this day for the river.

*Deal*, *Dec.* 29.—Wind NNW. Light breezes and fine weather. Last night the wind shifted round to ESE and NE, in the course of which and early this morning the whole of the outward-bound sailed.

The weather in Paris is exceedingly mild, but moist and rainy: the rose trees are, in many places, in full bearing; the thermometer in general about eight or ten degrees of Reaumur. There has been only one night of slight frost this winter as yet, and France appears, in general, to have been wholly exempt from the numerous calamities that have visited other parts of the world of late.—*P. L. Dec.* 30.

### Effects of the Spring Tide in the Thames and Medway.

Between three and four o'clock on Thursday morning the inhabitants of Fore-street, Limehouse, were thrown into the utmost confusion by the springing of the watchmen's rattle, and other signals of danger, in consequence of the water bursting into their houses in torrents. Various are the causes assigned for the inundation; some attribute it to the late heavy rains, and the wind, which blew a strong gale from the NNW: others allege it to be due to the negligence of the Marsh Jury, whose duty it is to leave the flood-gates open at this period of the season for a proper time, whereby the waters would find their way into the marshes, and the destruction of property would be avoided. The water at one time was near four feet deep in the streets, and the cellars of the houses were completely deluged. After the tide returned, men were employed in ejecting the water from the houses by means of pumps and buckets, but some of the cellars were yesterday three and four feet deep.—*P. L. Dec.* 25.

*The Kentish Gazette* says:—On Thursday morning last an extraordinary high tide occurred at Strood; the gas works were greatly damaged, so much so, that the operation of the works is stopped; and notices were distributed to the inhabitants, that till the damage was repaired, the town would not be lighted as usual. A number of distressing events occurred in consequence; a poor woman was drowned in her bed.—*P. L. Dec.* 30.

By attending to the localities, the immediate cause of these inundations would probably be found at once, in the strong NW wind, conspiring with the critical moment of the top of spring-tide, to throw the accumulated waters on the south bank of each river, at these particular places. It appears, that on the same day the *Clyde* overflowed, and did considerable damage at Glasgow.—L. H.

### Storms and Inundations, *abroad and at home.*

The autumn of 1824 was as remarkable on the Continent for storms and inundations, as in our own island. The following accounts of some of these calamities are extracted and abridged from the public papers, and from documents published in order to promote a subscription for the relief of the sufferers.

*Strasburgh, Nov.* 20, 1824.—"Since the 25th Oct. the rains have never ceased in our neighbourhood. They began by a storm which extended from the Upper Rhine as far as the Palatinate, and was renewed for two successive days. At the foot of the Vosges, [as in other districts,] the furrows became rivulets, the trenches complete torrents, the smaller rivers swelled into large ones, and inundated the whole country. The lower parts of our department, and the plains, became lakes, in which the beds of the rivers could only be traced by currents which poured at random, while they overcame all obstacles. The overflowings were so sudden and unforeseen, that many persons found themselves surrounded with water, at the very moment they perceived the tumultuous surges approaching the spot. The impediments presented by dykes, roads, mills, &c. were the cause of yet greater misfortunes below them, when the accumulated weight of waters at length burst through and carried the materials down the stream.

"Such was the situation of more than twenty villages and hamlets—which appeared like little islands in the water. Provisions and furniture, as well as stables and barns, were abandoned, and great numbers of the cattle drowned. The *Sornc*, the *Moder*, and the *Zinzel*, with other rivers received from the adjacent vallies, have marked their course in these disasters, and left a long track of ruin and devastation behind. The Rhine itself was only kept in by works, [of

embankment,] executed under the inspection of the Prefect of the department, who during the whole of these calamitous days was indefatigable, guiding and encouraging the inhabitants every where. His example kept them from giving way to the exhaustion of strength produced by labouring day and night, amidst anxiety and despair. For several nights, after giving way to a deceitful slumber, they were summoned by the ringing of bells, to the spots where danger threatened. The *Elbe* was for some time restrained from overflowing by similar exertions; but the dykes at length gave way, and poured its waters over the country. The *Weser* also broke its banks, and caused very extensive inundations in Hanover.

From the *Bibliotheque Universelle*.—"The latter half of the month of November, was in various respects [says M. Pictet] remarkable [at *Geneva*,] first, for the singularly unsettled weather; again, notwithstanding the frequent rains, the hygrometer indicated often an unusual dryness in the air, especially with the SW wind, which is in general moist with us. The Barometer fell, between the 22d and 23d, so rapidly as to indicate the approach of one of those extensive perturbations of the atmosphere, which are among the most singular facts in Meteorology, and the most difficult to account for. In the morning of the 23d the wind above was SW, and the NE, scarce perceptible, below. In the evening there was thunder and lightning, with a heavy shower, producing about eight-twelfths of an inch. The wind blew in gusts: the Barom. which was very low at the time, (twenty-six in. three lines and a half Fr.) had risen by half-past ten p. m. half a line; yet it remained very low the whole of the 24th, and rose abruptly about three lines, between this night and the 25th in the morning. [This depression coincides with the greatest that occurred in this year with us.]

In the *Journal des Debats*, of Nov. 29, it is said, "There was a most violent storm at *Brest*, in the night of the 22d and 23d Nov. Towards three p. m. on the 22d, the wind was already strong from the SE; it went round to SW, insensibly increasing in force. At seven, the first signal of distress was heard from sea. It rained slates and tiles in the town, and there was no standing on the beach. [The details of a shipwreck follow.]

It is difficult not to consider this storm, which thus blew over the whole breadth of France, as connected with the one occurring three days before on the coasts of the Baltic, from Christiana to Petersburg, and which pressing the water of the Gulf of Finland in a great swell into the mouth of the Neva, caused it to inundate the latter city.

The following is an extract of a private letter, dated St. Petersburgh, Nov. 12, (24):—

"On Thursday night, the 6th (18th) inst. the lamps round the Admiralty steeple were hung out, as is customary, to warn the inhabitants not to sleep in their lowest apartments, in consequence of a strong westerly wind impeding the rapid current from the Ladoga Lake, and thus swelling the Neva and the Canals. During the whole night it continued to blow strong, and by day-light on the 7th (19th) the water had risen higher than has been known for some years. The white flags at the Admiralty were hoisted, and soon after the guns from the fortress were fired, to announce the increasing danger. The wind blew tremendously, and by twelve o'clock the water had poured over the quays, and inundated the whole city. Vehicles of all descriptions were now seen hurrying homewards, or to the bridges or some rising ground, with the water over the wheels; the people were also seen wading through it, up to their waist: in a short time only a courier here and there appeared on horseback, their horses could

scarcely keep their heads above water. At one o'clock nothing was to be seen on the Grand Place and in the streets but wooden barques, empty boats, sentry-boxes, timber, furniture washed from the houses, besides bread and various sorts of provisions, all floating in confused masses on its boisterous surface; large sheets of iron, with which the roofs are covered, at the same time, were rolling up and blowing away.

"Masses of dark cloud passed rapidly over us, leaving spaces of clear atmosphere, through which the sun, darting its rays vividly, so illuminated the violently-troubled water which splashed over the highest houses in the Grand Place, as to render it at once a most magnificent and awful spectacle. Wooden houses were seen floating up the river, most of the inhabitants of which had perished.

"In the Smolenski quarter of the town, coffins were washed out of the graves, and the dead bodies thrown from their quiet habitations. A solitary boat or two at last endeavoured to save from destruction those who had sought refuge on high steps, bases of pillars, trees, &c. and at two o'clock, the water then being six and seven feet above the pavements, in nearly all parts of the city, the wind, although blowing equally strong, changed a few points to the north, and no longer opposed the regular current of the river. The water then began to abate, and in the course of the evening it retired within its granite boundary. So improbable did it seem that the water would rise so high, that besides those who had business out, many had left their homes, in order to witness the increase of the Neva. Amongst them numbers were prevented from returning, and perished in the streets and public places; others, equally surprised within doors, were forced to seek refuge in lofts, and upon roofs of small houses, after their rooms had been filled with water, where they also must have perished, had not the wind providentially varied.

"On Saturday the 8th (20th) at day-break, I went out to view the effects of this catastrophe. I found the quay of the Neva blocked up with timber, broken barges, galliots, and vessels of various descriptions, which had carried with them the pillars, lamp-posts of the houses, and had broken in the windows, and otherwise damaged the edifices on the quay. The large blocks of granite, of which the parapet is composed, were thrown over. The St. Isaac's the Toochkoff, and the Summer-garden bridges, were broken away from their anchors, and dispersed and destroyed. Many of the streets were stopped up with timber, so as to be almost impassable. Nearly all the bridges over the canals were carried away or destroyed, and many parts of the canals were passable over the wrecks that choked them up. In the Vassilyostroff quarter, where most of the houses are of wood, the destruction was immense—whole dwellings were hurled from their foundations, some of which were found at a considerable distance from the place on which they stood, with the dead bodies of their unfortunate inhabitants within, others were broken in pieces on the spot, and some of them have been so totally destroyed, that not a fragment of them remains. As I approached the Galley-haven the scene was most distressing. I met numbers of poor people loudly bewailing the loss of their relatives and friends, and carrying on their backs the vestiges of the property they had been able to collect from the general ruin; and upon approaching nearer I found the most appalling causes for so much distress —a plain thickly strewed with dead bodies, particularly women. I walked over confused heaps of devastation, intermixed with the corpses of men and animals. The rapidity of this inundation has occasioned distress at present incalculable and, although we hear of thousands having been found drowned, it is impossible

possible to conceive the numbers that may have been lost in the streets, and carried down the Gulf of Finland with the retreating waters; besides numbers that must still remain buried in the ruins of their habitations, many must have been drowned in the streets and public places, while they were seeking to escape. A lady and a child in a carriage were in a dangerous situation; a cossack riding past observed her distress and stopped, she entreated him at all hazards to save the child; he took it from the carriage window, but in a few moments his horse slipped, he fell with the child, and they both perished. Soon afterwards the lady, with her servants, horses, and baggage, were also overwhelmed in the waters. This is only one out of the hundreds of instances that have been witnessed equally distressing. All the lower apartments were filled with water; and as all the shops of provisions are on the ground floor, immense quantities have been destroyed or damaged. Every kind of food is in consequence considerably dearer; and it is expected the prices will rise yet higher, as whole droves of cattle have been drowned on their way to town.

The loss to the merchants is immense. Thousands of chests of sugar have been dissolved, and goods of all sorts spoiled or lost. The places I have mentioned are such only as I have seen: others are equally damaged or destroyed."

Another account states, distinctly, that "the very tide of the sea came up, and inundated to an immense extent the borders of the Gulf of Finland." This report states, that "after five o'clock in the evening the wind shifted, without abating any thing of its force, to a somewhat different quarter, and immediately the waters receded from the streets with as much rapidity as they had entered. The streets were entirely dried by the frost of the night; but they were dotted over with the bodies of men and dead horses, and filled with carriages overturned, and barges which had floated in from the river. These had broken down the lamp-posts, and uprooted or broken the greater part of the solid iron boute-roues, which defended the foot-pavement. The latter (all those fine slabs of granite) is entirely displaced; all the bridges, so numerous in this city, are broken; the communications between the different quarters of the city are cut off. They reckon more than three thousand drowned in the city, and ten thousand in the environs. To an extent of five leagues around, the villages were destroyed: the inhabitants climbed into trees to save themselves, and these, being uprooted in great numbers, fell into the flood. The loss of the merchants is estimated at a hundred millions of rubles, and that of the crown at much more."

A friend of my own, who was in the city at the time, says: "It would require many sheets of paper to detail the distress, and then fall very short. The whole city exhibits such a wreck as could not be fully described: the destruction of horses has been very great, as also of cows, so that it is a very difficult matter to get milk: we have been obliged to do without the whole of this day, and are thankful we can get bread, as many are obliged to content themselves with raw turnips.

"To conclude, it is said that the emperor, in passing about among all these disasters, appeared more cast down than if he had lost the most sanguinary battle. Never had Petersburgh offered so fine a spectacle as it did some days previous to this inundation, when its public works [lately in hand] had been finished in the best manner; and, now, all thrown down!"

Whether the high tide which did so much damage on our own coasts had any connexion with the reflux of the sea, after the very great elevation of the waters to the northward, by the gale of the 19th, may be a subject for future inquiry; but it is not improbable that the meeting of a swell from the north sea, with the tide coming from the westward, round the northern extremity of Britain, might throw a proportionate additional weight of water upon our western and southern shores.

Let us now apply the facts we have been contemplating, in aid of the solution of an *apparent* difficulty in the Bible. We read in the Exodus, that the Egyptians pursuing Israel, in their flight from Egypt, were drowned by a sudden "return" of the "sea to its strength;" when they had ventured into a passage that was opened upon a shoal by the lowering of the waters, "the LORD" having "caused the sea to go back by a strong east wind all that night," and by which Israel had just before gone in safety to the shore in another part. In such a passage, the waters would be (without a figure) "a wall unto them"—a defence against the approach of the enemy, "on their right hand and on their left." Such is the plain *history* of the case, (confirmed, in the same and in other seas, by modern instances of like kind,) which we must be careful not to confound with the sublime *poetry* found in the same book, and in the Psalms, on the subject; in which, by strong metaphors, the waters are represented, not only as *gathered together*, but as "congealed and standing upright as an heap:" passages which, read without a due attention to the context, might lead the advocate for Divine revelation and the providence of Almighty God, in relation to his chosen people, to insist on an untenable point; thus giving an advantage to an adversary in the argument.—L. H.

*Stockholm, Nov.* 26.—The hurricane of the 18th and 19th of this month, traversed Sweden in the direction from Gottenburgh to Stockholm, and did some damage in the forests. The capital suffered comparatively little, the wind being off shore; but on our Western coast, where it blew from sea-ward, *the tide rose in some places eight feet above the common level.*

The gale of the 22d and 23d of the Eleventh Month, which was attended with corresponding movements of the Barometer at *London* and *Geneva*, not only swept France in its whole breadth, but was

severely felt along the south coast of Britain. The papers exhibit accounts from various sea-ports, and places in-land, from Plymouth to Dover, [filling many columns,] of its destructive effects, both as to the shipping and property on shore, with considerable loss of lives. The great *swell* which came on shore appears to have done as much mischief as the wind: it was a spring-tide, and several of the accounts note it as an exceeding high one—the consequence was, the destruction of many buildings and works near the sea. At *Chisel* (Portland) not only were several houses swept away, but the inhabitants drowned.

"At *Fleet,* (says the same article,) the church, with almost every house in the village, is swept away, and several lives lost." Similar accidents occurred in other places. *Sidmouth* was "deluged," and the inhabitants of many houses escaped with difficulty from drowning. Again, from *Southampton*—"The storm, with which this port was visited on Monday night and Tuesday morning, if not the most terrible in the memory of the oldest inhabitant, yields only to that of the memorable 4th of March, 1818. About eleven o'clock on Tuesday the flood had reached the limit of the highest tides, and long before the time of high water, (half-past twelve,) it had risen from four to six feet above it." At *Cowes,* (Isle of Wight,) no mail arrived or sailed from the Island on the 23d, an occurrence which had not taken place for forty years. The like was said of the violence of the wind at *Brighton.* In proof of its force it may be added, that the light-house on *Penzance* pier, which is twenty tons in weight, and thirty feet above high-water mark, was moved bodily from its base, and left overhanging the pier. Again, the swell came with such force into *Plymouth,* that stones of seven or eight tons weight were displaced in the Breakwater, and that great national work sustained serious damage. Yet the sea in the Sound, *within it,* was not so tempestuous but that open boats, during the morning, could put across it. Some shipwrecks occurred, however, in harbour, both here and at Portsmouth.

| 1825. | | Wind. | By Clock. | | Temp. | | Med. | Evap | Hygr. at 9 a. m. | Rain, &c. |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Max. | Min. | Max. | Min. | | | | |
| 1 mo. Jan. | 1 | W | 30·20 | 29·98 | 54° | 42° | 48· | — | | 5 |
| | 2 | W | 30·40 | 29·90 | 45 | 35 | 40· | — | | — |
| | 3 | SW | 30·41 | 30·00 | 54 | 36 | 45· | — | | 16 |
| | 4 | W | 30·40 | 30·00 | 53 | 32 | 42·5 | — | | — |
| | 5 | N | 30·66 | 30·40 | 37 | 25 | 31· | — | | |
| | 6 | N | 30·63 | 30·50 | 49 | 25 | 37· | — | | |
| | 7 | W | 30·70 | 30·43 | 45 | 32 | 38·5 | — | | — |
| | 8 | N | 30·82 | 30·70 | 42 | 32 | 37· | — | | |
| | 9 | NW | 30·82 | 30·80 | 42 | 38 | 40· | — | | |
| | 10 | N | 30·82 | 30·72 | 50 | 35 | 42·5 | — | | |
| | 11 | NW | 30·70 | 30·68 | 42 | 29 | 35·5 | — | | |
| | 12 | NW | 30·67 | 30·53 | 48 | 32 | 40· | — | | |
| | 13 | NW | 30·53 | 30·35 | 50 | 37 | 43·5 | ·47 | | |
| | 14 | W | 30·35 | 30·20 | 42 | 39 | 40·5 | — | | |
| | 15 | W | 30·20 | 29·70 | 42 | 32 | 37· | — | | |
| | 16 | SW | 29·90 | 29·50 | 43 | 31 | 37· | — | | 7 |
| | 17 | NW | 29·95 | 29·40 | 46 | 37 | 41·5 | — | | 3 |
| | 18 | S | 29·40 | 29·20 | 42 | 30 | 36· | — | | 35 |
| New M. | 19 | SW | 29·65 | 29·37 | 39 | 31 | 35· | — | | |
| | 20 | NW | 29·85 | 29·65 | 42 | 36 | 39· | — | | 6 |
| | 21 | NE | 30·10 | 29·85 | 43 | 32 | 37·5 | — | | |
| | 22 | NE | 30·28 | 30·00 | 41 | 32 | 36·5 | — | | |
| | 23 | N | 30·25 | 30·10 | 40 | 31 | 35·5 | — | | |
| | 24 | N | 30·10 | 29·65 | 40 | 32 | 36· | ·45 | | 15 |
| | 25 | NW | 30·10 | 29·70 | 40 | 27 | 33·5 | — | | |
| | 26 | S | 30·10 | 30·05 | 40 | 32 | 36· | — | | 7 |
| | 27 | SW | 30·70 | 30·10 | 51 | 32 | 41·5 | — | | |
| | 28 | N | 30·82 | 30·70 | 44 | 24 | 34· | — | | |
| | 29 | Var. | 30·82 | 30·55 | 38 | 24 | 31· | — | | |
| | 30 | W | 30·60 | 30·50 | 45 | 38 | 41·5 | — | | |
| | 31 | W | 30·60 | 30·10 | 50 | 44 | 47· | .27 | | 1 |
| | | | 30·82 | 29·20 | 54 | 24 | 38·59 | 1·19 | | ·95 |

Notes.—First Mo. 1. Fine. 2—4. Cloudy. 5. Fine. 6. White frost, and foggy morning: fine day. 7. Cloudy. 8. Very fine day. 9. Cloudy. 10. Overcast. 11. Ditto. 12. Foggy: gloomy. 13, 14. Gloomy. 15. Gloomy: fine afternoon. 16. Overcast: showery. 17. Fine. [Rain: a violent gale, R. S.] 18. Rainy morning: wind high: rainy. 19. Fine. 20. Fine: some rain at night. 21, 22. Cloudy. 23. Cloudy: cold. 24. Cloudy. 25. Fine. 26. Drizzly. 27. Fine. 28. Very fine. 29. Hoar frost and fog. 30. Cloudy. 31. Cloudy.

## RESULTS.

Winds: N, 7; NE, 2; S, 2; SW, 4; W, 8; NW, 7; Var. 1.

| | | |
|---|---|---|
| Barometer: | Greatest height . . . | 30·82 in. |
| | Least . . . . . | 29·20 in. |
| | Mean . . . . . | 30·239 in. |
| Thermometer: | Greatest height . . . | 54° |
| | Least . . . . . | 24° |
| | Mean . . . . . | 38·59° |
| | For 29 days, the sun in Capricorn | 39·551° |
| Evaporation . . . . . | | 0·92 in. |
| Rain . . . . . | | 0·95 in. |
| And by a second guage . . . . | | 1·00 in. |

The following comes to me through the medium of the *Philo. Mag. and Journal,* in which are previously cited various examples of effect of the high temperature of the season in our own climate:—

The winter has been remarkable for mildness *on the other side of the Atlantic*, as appears from the following extracts:—"We cannot call to mind in our own time a solitary instance of the same continued mildness of weather at the same season of the year. In almost every section of the country the weather seems to have been equally pleasant.—The *Savannah Republican* says, 'The beautiful idea of the poet—of Winter lingering in the lap of May—is at this time completely transposed in our climate, for May is smiling in the arms of December. Our thermometers are more than thirty degrees above the usual freezing point of the season. The grass begins to dress itself in green; the sweet jessamine and woodbine in the gardens of our city have expanded their fragrant leaves, and present to our view full-blown flowers; the rose partially covers its stem with luxuriant leaves, and the infant bud of Flora's favourite modestly begins to peep forth through the sheltering foliage; the trees of every description start their bud; the peach is in full bloom, and the mocking-bird, the early messenger of spring, chants forth her praises for the continuance of mild and genial airs.'—Both Savannah and Darien papers speak of ripe mulberries and damsons. Peaches have already swelled to the size of a nutmeg. The North River is nearly if not quite free from ice as far as Troy."—*New York Commercial Advertiser, Dec.* 31.

| 1825. | | Wind. | By Clock. | | Temp. | | Med. | Evap | Hygr. at 9 a.m. | Rain, &c. |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Max. | Min. | Max. | Min. | | | | |
| 2d. mo. Feb | 1 | W | 30·50 | 30 10 | 48° | 30° | 39· | — | | 7 |
| | 2 | SW | 30·50 | 29·50 | 45 | 34 | 39·5 | — | | — |
| | 3 | W | 29·70 | 29·50 | 40 | 28 | 34· | — | | — |
| | 4 | NW | 29·77 | 29·70 | 45 | 25 | 35· | — | | — |
| | 5 | NW | 30·05 | 29·70 | 33 | 29 | 31· | — | | |
| | 6 | NW | 30·31 | 30·05 | 34 | 28 | 31· | — | | |
| | 7 | NW | 30·20 | 30·05 | 42 | 38 | 40· | — | | 53 |
| | 8 | W | 30·40 | 30·05 | 45 | 30 | 37·5 | — | | |
| | 9 | NW | 30·60 | 30·45 | 45 | 32 | 38·5 | — | | |
| | 10 | W | 30·67 | 30·59 | 48 | 28 | 38· | — | | |
| | 11 | W | 30·67 | 30·66 | 48 | 26 | 37· | — | | |
| | 12 | SW | 30·68 | 30·65 | 42 | 28 | 35· | — | | |
| | 13 | W | 30·58 | 30·47 | 38 | 32 | 35· | — | | |
| | 14 | W | 30·47 | 30·20 | 36 | 34 | 35· | — | | |
| | 15 | SE | 30·18 | 30·06 | 41 | 39 | 40· | ·48 | | — |
| | 16 | SW | 30·11 | 30·08 | 45 | 37 | 41· | — | | |
| New M. | 17 | S | 30·10 | 29·99 | 48 | 39 | 43·5 | — | | 15 |
| | 18 | E | 30·30 | 30·10 | 48 | 43 | 46·5 | — | | 10 |
| | 19 | E | 30·40 | 30·30 | 52 | 42 | 46· | — | | |
| | 20 | SW | 30·60 | 30·36 | 52 | 32 | 42· | — | | |
| | 21 | NW | 30·57 | 30·55 | 48 | 27 | 37·5 | — | | |
| | 22 | NW | 30·55 | 30·30 | 45 | 38 | 41·5 | — | | |
| | 23 | SE | 30·35 | 30·25 | 42 | 30 | 36· | — | | |
| | 24 | E | 30·50 | 30·35 | 48 | 32 | 40· | — | | |
| | 25 | NE | 30·51 | 30·30 | 40 | 32 | 36· | — | | |
| | 26 | NE | 30·30 | 29·75 | 40 | 33 | 36·5 | — | | — |
| | 27 | S | 29·65 | 29·57 | 45 | 29 | 37· | — | | 13 |
| | 28 | NW | 29·80 | 29·57 | 44 | 30 | 37· | ·40 | | |
| | | | 30·68 | 29·50 | 52 | 25 | 38·07 | ·88 | | ·98 |

Notes.—Second Mo. 1. Rainy. 2, 3. Fine. 4. Snowy morning. 5, 6. Fine. 7. Cloudy: rainy night. 8, 9. Fine. 10. Foggy morning: fine day. 11. The same. 12. The same: a clear night. 13. A very thick fog this morning: cleared a little p. m. 14. Foggy morning: gloomy. 15—17. Cloudy. 18. Rainy. 19. Cloudy. 20. Overcast. 21. Foggy: fine p. m. 22. Hoar frost: a fine day. 23. The same. 24, 25. Overcast. 26. The same: snow about noon. 27. Rainy morning: gloomy. 28. Fine.

## RESULTS.

Winds: NE, 2; E, 3; SE, 2; S, 2; SW, 4; W, 7; NW, 8.

| | | |
|---|---|---|
| Barometer: | Greatest height | 30·68 in. |
| | Least | 29·50 in. |
| | Mean | 30·075 in. |
| Thermometer: | Greatest height | 52° |
| | Least | 25° |
| | Mean | 38·07° |
| | For 30 days, the sun in Aquarius | 37·133° |
| Evaporation | | 0·88 in. |
| Rain | | 0·98 in. |
| And by a second guage | | 1·02 in. |

On the 5th, about one o'clock, the wind being NW, the barometer 29·74 in. rising, and the temperature about 32°, I observed the *Cumuli,* which were gathering under *Cirrus* above, to have the curling movement in their tops which I have mentioned, in describing this modification, as indicating rain. But there was one small round cloud in the E, which I detected making complete revolutions upon its axis; of which I traced more than one by the motion of a projecting part: though the tendency was, all the while, to throw off the substance every way from the centre, into a larger space; until, in a minute's time or so, from *a very dense bright spot,* of about the apparent diameter of the sun's disk when obscured by mist, it was become as loose in its texture as an ordinary amorphous *Cirrus;* of which there were many specimens about at the time. This effect was probably electrical, and depended on a change of state brought on by the cloud's passing into a new medium.

After a fine day, though somewhat cold and cloudy p. m. on the 6th, there came on, upon the 7th, a gale of wind, at first about SW, with rain and thaw, though the barometer did not descend below thirty inches, but on the contrary continued to rise, and attained a great elevation. The *previous fall* to 29·50 in. was therefore, together with the curling *Cirri,* among the indications of this short change of weather.

| 1825. | | Wind. | By Clock. | | Temp. | | Med. | Evap | Hygr. at 9 a. m. | Rain, &c. |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Max. | Min. | Max. | Min. | | | | |
| 3 mo. March | 1 | W | 29·75 | 28·90 | 45° | 34° | 39·5 | — | | |
| | 2 | NW | 29·40 | 28·90 | 48 | 32 | 40· | — | | 48 |
| | 3 | NW | 29·70 | 29·45 | 45 | 32 | 38·5 | — | | |
| | 4 | NW | 30·30 | 29·60 | 42 | 28 | 35· | — | | |
| | 5 | N | 30·38 | 30·20 | 42 | 30 | 36· | — | | |
| | 6 | S | 30·20 | 29·70 | 45 | 32 | 38·5 | — | | — |
| | 7 | SSE | 30·30 | 29·70 | 47 | 32 | 39·5 | — | | |
| | 8 | NW | 30·40 | 30·31 | 50 | 39 | 44·5 | — | | 11 |
| | 9 | SW | 30·35 | 30·31 | 50 | 45 | 47·5 | — | | — |
| | 10 | SW | 30·32 | 30·20 | 53 | 48 | 50·5 | — | | 10 |
| | 11 | SW | 30·25 | 30·17 | 52 | 37 | 44·5 | — | | 2 |
| | 12 | N | 30·30 | 30·15 | 50 | 37 | 43·5 | — | | — |
| | 13 | SW | 30·20 | 30·15 | 46 | 30 | 38· | — | | — |
| | 14 | E | 30·30 | 30·17 | 38 | 29 | 33·5 | — | | 5 |
| | 15 | E | 30·35 | 30·25 | 38 | 27 | 32·5 | ·55 | | |
| | 16 | N | 30·60 | 30·30 | 41 | 21 | 31· | — | | — |
| | 17 | SE | 30·68 | 30·57 | 40 | 25 | 32·5 | — | | |
| | 18 | ESE | 30·70 | 30·66 | 45 | 21 | 33· | — | | |
| New M. | 19 | E | 30·75 | 30·65 | 45 | 24 | 34·5 | — | | |
| | 20 | NE | 30·73 | 30·60 | 53 | 26 | 39·5 | — | | |
| | 21 | NE | 30·58 | 30·35 | 54 | 36 | 45· | — | | |
| | 22 | NE | 30·32 | 30·24 | 40 | 34 | 37· | — | | |
| | 23 | E | 30·24 | 30·15 | 48 | 28 | 38· | — | | |
| | 24 | NE | 30·10 | 29·88 | 52 | 30 | 41· | — | | |
| | 25 | E | 30·10 | 29·88 | 52 | 34 | 43· | — | | |
| | 26 | NE | 30·15 | 30·10 | 50 | 32 | 41· | ·43 | | |
| | 27 | E | 30·10 | 30·08 | 58 | 30 | 44· | — | | |
| | 28 | NE | 30·12 | 30·05 | 52 | 35 | 43·5 | — | | |
| | 29 | E | 30·10 | 30·01 | 48 | 38 | 43· | — | | |
| | 30 | E | 30·40 | 30·10 | 48 | 34 | 41· | — | | |
| | 31 | E | 30·58 | 30·40 | 52 | 33 | 42·5 | ·32 | | |
| | | | 30·75 | 28·90 | 58 | 21 | 39·70 | 1·30 | | ·76 |

Notes.—Third Mo. 1. Fine. 2. Fine day: rainy night. 3. Fine. 4. Some hail p. m.: cold wind all day. 5, 6. Fine. 7. Cloudy. 8. Fine. 9. Cloudy. 10. Gloomy. 11. Rainy morning. 12. Cloudy. 13. Gloomy. 14. Some snow this morning. 15. Fine. 16. Some snow at intervals during the day. 17—21. Fine. 22. Cloudy. 23—26. Fine. 27. Fine: a lunar corona at night. 28. White frost: cloudy. 29—31. Fine.

## RESULTS.

Winds: N, 3; NE, 6; E, 9; SE, 3; S, 1; SW, 4; W, 1; NW, 4.

| | | |
|---|---|---|
| Barometer: | Greatest height | 30·75 in. |
| | Least | 28·90 in. |
| | Mean | 30·187 in. |
| Thermometer: | Greatest height | 58° |
| | Least | 21° |
| | Mean | 39·70° |
| | For 29 days, the sun in Pisces | 40·293° |
| Evaporation | | 1·30 in. |
| Rain | | 0·76 in. |
| And by a second guage | | 0·80 in. |

### *Winter in Iceland,* 1824—5.

Accounts from *Iceland,* to the middle of March, say, that they have had a long and severe winter, which began in September. At the beginning of January there were dreadful hurricanes, which were followed by inundations in several parts of the island. Several shocks of an earthquake were also felt in Norder Gossel, and on the 20th Jan. a very smart one in Suderland.—*Copenhagen, April* 21. From the *Philo. Mag.*

On which I have to remark, that I have demonstrated in this work, under Tab. 52, that our own island, and that of Iceland, are frequently situate in opposite currents, the one being in the Polar, while the other is in the Equatorial. It is, therefore, not to be wondered at, that on the weather becoming wet and windy, in Britain, (which it was to an excessive degree, through the autumn of 1824,) it should set in frosty in Iceland; nor that, on the Barometer, with us, resuming a very high level, and the weather becoming clear and moderate, in the beginning of 1825, they should experience the storms of wind and inundations which had before prevailed here.

| 1825. | | Wind. | By Clock. | | Temp. | | Med. | Evap | Hygr. at 9 a. m. | Rain, &c. |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Max. | Min. | Max. | Min. | | | | |
| 4 mo. April | 1 | NE | 30·35 | 30·10 | 52° | 25° | 38·5 | — | | |
| | 2 | NE | 30·10 | 29·73 | 59 | 32 | 45·5 | — | | |
| | 3 | SW | 29·83 | 29·60 | 62 | 35 | 48·5 | — | | |
| | 4 | N | 29·60 | 29·33 | 62 | 30 | 46· | — | | |
| New M. | 5 | NE | 30·06 | 29·33 | 62 | 38 | 50· | — | | |
| | 6 | E | 30·06 | 29·97 | 55 | 25 | 40· | — | | |
| | 7 | E | 30·07 | 29·77 | 55 | 35 | 45· | — | | |
| | 8 | E | 30·20 | 30·06 | 58 | 28 | 43· | — | | |
| | 9 | NE | 30·35 | 30·25 | 68 | 34 | 46· | ·95 | | |
| | 10 | NE | 30·35 | 30·15 | 69 | 44 | 56·5 | — | | |
| | 11 | NW | 30·15 | 30·10 | 69 | 44 | 56·5 | — | | |
| | 12 | W | 30·18 | 30·10 | 60 | 44 | 52· | ·44 | | — |
| | 13 | W | 30·27 | 30·12 | 54 | 40 | 47· | — | | — |
| | 14 | W | 30·24 | 30·16 | 64 | 44 | 54· | — | | |
| | 15 | W | 30·25 | 30·16 | 64 | 40 | 52· | — | | |
| | 16 | NW | 30·30 | 30·15 | 64 | 40 | 52· | — | | |
| | 17 | NW | 30·35 | 30·25 | 55 | 29 | 42· | — | | |
| | 18 | N | 30·30 | 30·22 | 54 | 26 | 40· | ·84 | | |
| | 19 | N | 30·30 | 30·20 | 58 | 35 | 46·5 | — | | |
| | 20 | W | 30·20 | 30·00 | 58 | 36 | 47· | — | | |
| | 21 | SW | 30·00 | 29·62 | 58 | 36 | 47· | — | | 12 |
| | 22 | SW | 29·52 | 29·47 | 60 | 46 | 53· | — | | 17 |
| | 23 | SW | 29·50 | 29·42 | 66 | 49 | 57·5 | — | | 19 |
| | 24 | S | 29·75 | 29·40 | 66 | 40 | 53· | — | | 40 |
| | 25 | SE | 29·76 | 29·67 | 65 | 40 | 52·5 | — | | 2 |
| | 26 | E | 29·60 | 29·29 | 66 | 48 | 57· | — | | 53 |
| | 27 | E | 29·40 | 29·23 | 61 | 39 | 50· | — | | 10 |
| | 28 | SE | 29·50 | 29·40 | 62 | 38 | 50· | — | | 2 |
| | 29 | SE | 29·80 | 29·49 | 66 | 42 | 54· | ·97 | | |
| | 30 | S | 29·85 | 29·78 | 63 | 43 | 53· | ·14 | | |
| | | | 30·35 | 29·23 | 69 | 25 | 49·33 | 3·34 | | 1·55 |

Notes.—Fourth Mo. 1—8. Fine. 9. Foggy morning: very fine day. 9—11. Fine. 13. A little gentle rain this morning. 14—21. Fine. 22. A gentle rain this morning: showery day. 23. Fine. 24. Showery afternoon. 25. Fine: some thunder this afternoon. 26. Thunder at intervals during the day, with showers of rain and hail. 27. Showery. 28—30. Fine.

## RESULTS.

Winds: N, 3; NE, 5; E, 5; SE, 3; S, 2; SW, 4; W, 5; NW, 3.

| | | |
|---|---|---|
| Barometer: | Greatest height | 30·35 in. |
| | Least | 29·23 in. |
| | Mean | 29·899 in. |
| Thermometer: | Greatest height | 69·00° |
| | Least | 25·00° |
| | Mean | 49·33° |
| | For 31 days, the sun in Aries | 45·467° |
| Evaporation | | 3·34 in. |
| Rain | | 1·55 in. |
| And by a second guage | | 1·61 in. |

*Roman Astrologers, &c.*

It appears that the Romans were accustomed to the casting of nativities by astrological calculations. *Cicero* explodes the whole of this art, and accuses the practisers of it of great ignorance respecting the very structure of the heavens, by which they pretended to ascertain future events. Were all those born under one planet, he asks, who fell in the battle of Cannæ, that they all came to the same end? Or, were not multitudes of men born in like circumstances, as regards astrological calculation, with Homer himself?—*De Divinatione, Lib.* 2. xlvii.

*Pliny* advances the same charge of ignorance against his own countrymen. His description of the moon, in *Nat. Hist.* vi. 9, (in which he alludes to the declination as well as the phases,) concludes thus:—Quæ singula in eâ deprehendit, hominum primus, Endymion, et ob id amore ejus captus famâ traditur. Non sumus, profectò, grati erga eos qui lucem nobis aperuere in hac luce: *miraque humani ingenii peste, sanguinem et cædes condere annalibus juvat, ut scelera hominum noscantur mundi ipsius ignaris.*

| 1825. | Wind. | By Clock. | | Temp. | | Med. | Evap | Hygr. at 9 a. m. | Rain, &c. |
|---|---|---|---|---|---|---|---|---|---|
| | | Max. | Min. | Max. | Min. | | | | |
| 5 mo. May 1 | S | 29·80 | 29·75 | 64° | 44° | 54· | — | | 85 |
| 2 | S | 29·73 | 29·70 | 62 | 46 | 54· | — | | 12 |
| 3 | SW | 30·00 | 29·70 | 61 | 48 | 54·5 | — | | |
| 4 | SW | 30·00 | 29·90 | 71 | 57 | 64· | — | | 15 |
| 5 | E | 29·92 | 29·87 | 69 | 52 | 60·5 | — | | 1 |
| 6 | S | 29·86 | 29·80 | 74 | 52 | 63· | — | | |
| 7 | SW | 30·00 | 29·90 | 74 | 50 | 62· | ·94 | | |
| 8 | S | 30·16 | 29·98 | 70 | 46 | 53· | — | | — |
| 9 | W | 30·15 | 30·14 | 70 | 50 | 60· | — | | |
| 10 | NW | 30·15 | 30·10 | 70 | 52 | 61· | — | | |
| 11 | E | 30·06 | 29·90 | 70 | 50 | 60· | — | | 9 |
| 12 | E | 29·95 | 29·88 | 64 | 50 | 57· | — | | 1·70 |
| 13 | E | 30·30 | 29·90 | 52 | 40 | 46· | — | | 8 |
| 14 | N | 30·32 | 30·25 | 60 | 36 | 48· | — | | |
| 15 | NE | 30·30 | 30·10 | 56 | 42 | 49· | — | | |
| 16 | NE | 30·30 | 30·15 | 60 | 42 | 51· | — | | |
| 17 | NE | 30·40 | 30·20 | 58 | 54 | 56· | ·95 | | |
| New M. 18 | NE | 30·40 | 30·35 | 65 | 40 | 52·5 | — | | |
| 19 | NE | 30·35 | 30·30 | 55 | 34 | 44·5 | — | | |
| 20 | E | 30·34 | 30·25 | 58 | 38 | 48· | — | | |
| 21 | E | 30·25 | 30·10 | 69 | 37 | 53· | — | | |
| 22 | E | 30·15 | 30·00 | 70 | 45 | 57·5 | — | | |
| 23 | W | 30·00 | 29·80 | 80 | 50 | 65· | ·94 | | |
| 24 | W | 29·82 | 29·65 | 70 | 50 | 60· | — | | |
| 25 | SW | 29·70 | 29·66 | 69 | 51 | 60· | — | | |
| 26 | N | 29·80 | 29·70 | 63 | 44 | 53·5 | — | | 23 |
| 27 | N | 29·98 | 29·75 | 58 | 36 | 47· | — | | |
| 28 | SW | 30·00 | 29·90 | 60 | 36 | 48· | — | | 22 |
| 29 | SW | 30·10 | 29·97 | 64 | 39 | 51·5 | — | | |
| 30 | NE | 30·40 | 30·10 | 62 | 32 | 47· | — | | |
| 31 | NE | 30·50 | 30·45 | 64 | 32 | 48· | ·94 | | |
| | | 30·50 | 29·65 | 80 | 32 | 54·63 | 3·77 | | 3·45 |

Notes.—Fifth Mo. 1. Fine day: rainy night. 2. Showery. 3. Fine. 4. Fine: some lightning in the evening. 5. A heavy shower about eight a. m. 6—11. Fine. 12. Rainy. 13. Some rain, a. m.: fine p. m. 14—23. Fine. 24. Cloudy. 25. Fine. 26. Cloudy: rainy evening. 27. Fine. 28. Showery. 29—31. Fine.

## RESULTS.

Winds: N, 3; NE, 7; E, 7; S, 4; SW, 6; W, 3; NW, 1.

| | | |
|---|---|---|
| Barometer: | Greatest height | 30·50 in. |
| | Least | 29·65 in. |
| | Mean | 30·035 in. |
| Thermometer: | Greatest height | 80·00 in. |
| | Least | 32·00 in. |
| | Mean | 54·63 in. |
| | For 30 days, the sun in Taurus | 54·096° |
| Evaporation | | 3·77 in. |
| Rain | | 3·45 in. |
| By a second guage | | 3·54 in. |

*** At Tottenham, on the 30th, about six p. m. a smart shower of rain, preceded by large hail, very well indicated the near approach of the cold current, by which the temperature on the following nights was lowered to the freezing point.

*Climate of Sierra Leone.*

"The year in this part of Africa is divided into the *rainy* and *dry* seasons—the rainy season being the winter, and the dry the summer. The latter is the more wholesome, if that term can be applied to any period of the year in this country. The rains are extremely heavy, cold, and constant, accompanied by thunder and lightning, and the most sudden and violent tornados. These visitations of the conflicting elements commence and terminate the rainy season [continuing] for some weeks. During the middle of the rains, there is seldom high wind, thunder, or lightning. At this time, when we look from our windows or doors, we see nothing but streams of rapidly descending rain, and a perpetual gloom, which for a series of weeks obscures the sun; till at last the long-wished-for period arrives, when the roaring of the tornado gives notice that the approach of light and a more cheerful sky is not far distant."—*Bance Island,* Sierra Leone river, January 11, 1815.—*Monthly Mag.*

"The rainy season at Bathurst [Gambia] commences early in the Seventh month, and terminates in the Tenth: at Sierra Leone, from the latter end of the Fourth, or beginning of the Fifth, it continues till the end of the year."—*W. Singleton.* Report of a Committee managing a Fund for promoting African Instruction, 1822.

| 1825. | | Wind. | By Clock. | | Temp. | | Med. | Evap | Hygr. at 9a. m. | Rain, &c. |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Max. | Min. | Max. | Min. | | | | |
| 6 mo. June | 1 | SW | 30·45 | 30·15 | 72° | 50° | 61· | — | | 9 |
| | 2 | SW | 30·15 | 29·72 | 68 | 54 | 61· | — | | — |
| | 3 | NW | 29·83 | 29·50 | 62 | 50 | 56· | — | | 5 |
| | 4 | SW | 29·60 | 29·34 | 65 | 43 | 54· | — | | 15 |
| | 5 | NW | 30·10 | 29·45 | 55 | 38 | 46·5 | — | | — |
| | 6 | NW | 30·06 | 29·99 | 64 | 52 | 58· | ·86 | | |
| | 7 | SW | 30·05 | 29·95 | 71 | 51 | 61· | — | | |
| | 8 | SW | 30·20 | 30·05 | 75 | 49 | 62· | — | | |
| | 9 | SW | 30·40 | 30·15 | 75 | 45 | 60· | — | | |
| | 10 | W | 30·40 | 30·37 | 79 | 46 | 64·5 | ·79 | | |
| | 11 | E | 30·35 | 30·25 | 81 | 44 | 62·5 | — | | |
| | 12 | E | 30·30 | 30·20 | 84 | 48 | 66· | — | | |
| | 13 | NE | 30·40 | 30·25 | 81 | 49 | 65· | — | | |
| | 14 | NE | 30·46 | 30·40 | 80 | 48 | 64· | ·88 | | |
| | 15 | NE | 30·40 | 30·30 | 82 | 43 | 62·5 | — | | |
| New M. | 16 | NE | 30·30 | 30·22 | 85 | 45 | 65· | — | | |
| | 17 | NE | 30·31 | 30·30 | 73 | 38 | 55·5 | — | | |
| | 18 | NE | 30·30 | 30·10 | 75 | 39 | 57· | — | | |
| | 19 | S | 30·15 | 29·80 | 77 | 40 | 58·5 | — | | |
| | 20 | NW | 30·00 | 29·82 | 67 | 37 | 52· | ·74 | | 7 |
| | 21 | NE | 30·17 | 30·00 | 62 | 35 | 48·5 | — | | |
| | 22 | NW | 30·20 | 30·15 | 74 | 42 | 58· | — | | |
| | 23 | NW | 30·20 | 30·00 | 75 | 42 | 58·5 | — | | |
| | 24 | SW | 30·05 | 29·80 | 75 | 44 | 59·5 | — | | |
| | 25 | SE | 29·85 | 29·77 | 77 | 47 | 62· | ·98 | | 5 |
| | 26 | SW | 29·90 | 29·85 | 70 | 44 | 57· | — | | 3 |
| | 27 | SW | 29·90 | 29·80 | 72 | 50 | 56· | — | | 8 |
| | 28 | SW | 29·85 | 29·73 | 74 | 52 | 63· | — | | 8 |
| | 29 | NW | 29·82 | 29·80 | 73 | 54 | 63·5 | — | | 2 |
| | 30 | NW | 29·90 | 29·77 | 72 | 55 | 63·5 | — | | 6 |
| | | | 30·46 | 29·34 | 85 | 35 | 59·51 | 4·25 | | ·68 |

NOTES.—Sixth Mo. 1. Fine. 2. Fine, with occasional clouds. 3. Fine. 4. Rainy. 5. Showery. 6, 7. Fine. 8. Cloudy. 9—19. Fine. 20. Cloudy: showers. 21—24. Fine. 25. Showery. 26. Fine, with slight showers. 27. Fine, showery. 28. Showery. 29. Cloudy. 30. Showery.

## RESULTS.

Winds: NE, 7; E, 2; SE, 1; S, 1; SW, 10; W, 1; NW, 8.

| | | |
|---|---|---|
| Barometer: | Greatest height | 30·46 in. |
| | Least | 29·34 in. |
| | Mean | 30·050 in. |
| Thermometer: | Greatest height | 85·00° |
| | Least | 35·00° |
| | Mean | 59·51° |
| | For 30 days, the sun in Gemini | 57·67° |
| Evaporation | | 4·25 in. |
| Rain | | 0·68 in. |
| By a second guage | | 0·69 in. |

*Climate of the Mediterranean.*

"The mean *temperature of the year,* at sea, in the Mediterranean, from various observations in different places for three years, was found to be very near 67°. It is subject to great changes in point of *humidity,* which are least felt in the middle, between Africa and Europe. The prevailing *winds* are from the northward, especially in settled weather and in summer. In winter, the winds veer between the NE and S. After the hilly country of Greece is covered with snow, they come from the S and SE, with great vicissitudes in wind and temperature when the snow is dissolving in the spring.

"The south-east, or *Sirocco,* is an important wind here; but its qualities, as to dryness and moisture, are governed by the nature of the surface over which it blows to the observer. It seems to be worst in Sicily and Candia. The longer it blows the drier it becomes: it is always attended with imperfectly formed clouds or a hazy atmosphere; and its debilitating effects seem to depend [besides the high temperature] on its robbing the body of its natural charge of electricity.

"Thunder-storms on the hilly tracts of the coasts, attend the breaking up of the fine weather in summer, by the coming down of a south-east or south wind on the northerly current. The development of the electricity is chiefly perceptible on the upper part of the newly-formed clouds, which are precipitated, one after another, from a muddy and misty atmosphere above, [*Cirrostratus*?] Rain succeeds to these appearances *at sea without thunder,* and in twenty-four hours the wind will change again steadily to the northward, with a clear sky, fine weather, and a permanent fall of the Thermometer. [We may reasonably conclude that it is at such times that water-spouts are

seen, which are probably the substitute here for thunder and lightning.] When these appear, the author says: "I always remarked the development of electric light to be from the upper outline of the newly precipitated strata of clouds, [the crowns of *Nimbi,* mixed among *Cumuli,* &c.] the direct preliminary being a wind from the sea or from the south.

"Towards the east point of the north coast of Africa, the *sand* from the desert often reaches the Mediterranean, *and gives a light yellowish tint to the atmosphere.* At Alexandria, with the breeze at SW by S, warm and dry, I have seen the fine pulverulent sands create a complete haze, and partially obscure the sun. I first supposed the haze arose from the humidity evaporated from the small extent of sea and the course of the Nile; but finding small portions of sand collected on several exposed places of the ship, I was soon convinced of the true nature of the phenomenon.

"A change of wind, at *Alexandria,* on Feb. 25, 1825, from NE to SW by S, produced an increase of temperature from 56° to 76°, or 20° in one day."—*Sketch of the Climate of the Mediterranean,* with remarks on its Medical Topography, being the result of five years' observation.—By the late W. Black, Surgeon, R. N.

### *Periods in the Tides, &c.*

*Pliny* says of the tides:—Per octonos quoque annos, ad principia motûs et paria incrementa, centesimo Lunæ revocantur ambitu, augente eâ cuneta Solis annuis causis [effecta.] The tides, according to his information, had a period of eight years, (or eight times twelve and a half, or one hundred *moons,*) in which they ran through all the changes which the varying positions of the sun and moon, with relation to the earth, were capable of inducing in them.

He says, again: In Lyciâ semper a terræ motû quadraginta dies serenos esse [tradunt.] What is the terræ motus? Had they *earthquakes* so often, as that every very wet season gave occasion to one, which was followed by fine weather?—or does the phrase relate to something not well understood in *his* author, as, for instance, to the annual *turning up of the ground,* in the winter ploughing? Hiemes optate serenas.—Virgil. *Pliny's Nat. Hist.*

### Flying Fires.

"In this year of our Lord, 1202, there fallen grete reynes, and hailstones as gret as an eg, medlyd with reyn; wherethorough trees, *vines,* cornes, all manner frutes, were moche distroied: and the people were sore abaysshed, for there were seyn foules fleynge in the

eyre berynge in their bills brennyng coles, which brenden many houses."—*Chronicle of London.*

What shall we make of these "foules?" Were the appearances of the nature of an *Ignis fatuus?*—or were the people so simple as to make the common fiery meteors into such a fable?—or were they, lastly, *incendiary contrivances?* which being let fly amongst the thatched houses, in the midst of rain and darkness, might, upon the evidence of their horizontal movement, be reported of after this strange manner. I do not suppose that fowls of any kind could be brought to perform the office, as here described. *Fireworks* were not known here, by what appears in history, till some centuries later.

1224. "In this yere, upon Seynt Luke's day, [Oct. 18,] there blew a gret wynd out of the north, whiche caste downe manye houses, steples, and torrettes of chirches, and turned up so downe trees in wodes and in orchardes; *at which tyme fyry dragons, and wykkes spirytes,* grete noumbre, were seyn openly fleying in the eyre."—*Idem!*

| 1825. | Wind. | By Clock. | | Temp. | | Med. | Evap | Hygr. at 9 a. m. | Rain, &c. |
|---|---|---|---|---|---|---|---|---|---|
| | | Max. | Min. | Max. | Min. | | | | |
| 7 mo. July 1 | NW | 30·25 | 29·85 | 74° | 45° | 59·5 | — | | 5 |
| 2 | W | 30·30 | 30·26 | 76 | 45 | 60·5 | — | | |
| 3 | N | 30·29 | 30·20 | 83 | 57 | 70· | — | | |
| 4 | NW | 30·40 | 30·25 | 80 | 55 | 66·5 | — | | |
| 5 | NW | 30·40 | 30·20 | 75 | 48 | 61·5 | — | | |
| 6 | N | 30·20 | 30·12 | 68 | 45 | 56·5 | ·91 | | 4 |
| 7 | NW | 30·11 | 30·10 | 71 | 45 | 58· | — | | |
| 8 | N | 30·15 | 30·10 | 76 | 51 | 63·5 | — | | |
| 9 | N | 30·15 | 30·05 | 79 | 53 | 66· | — | | |
| 10 | W | 30·05 | 30·03 | 87 | 50 | 68·5 | — | | |
| 11 | W | 30·07 | 30·01 | 89 | 58 | 73·5 | — | | |
| 12 | NW | 30·17 | 30·06 | 89 | 58 | 73·5 | — | | |
| 13 | NW | 30·24 | 30·16 | 86 | 59 | 72·5 | ·95 | | |
| 14 | SW | 30·22 | 30·05 | 92 | 58 | 75· | — | | |
| New M. 15 | S | 30·30 | 30·02 | 95 | 62 | 78·5 | — | | |
| 16 | N | 30·38 | 30·30 | 91 | 58 | 74·5 | — | | |
| 17 | E | 30·30 | 30·23 | 92 | 58 | 75· | ·90 | | |
| 18 | SE | 30·28 | 30·22 | 97 | 62 | 79·5 | — | | |
| 19 | SE | 30·40 | 30·25 | 95 | 58 | 76·5 | — | | |
| 20 | SE | 30·25 | 30·22 | 87 | 56 | 71·5 | ·94 | | |
| 21 | E | 30·34 | 30·20 | 79 | 47 | 63· | — | | |
| 22 | E | 30·22 | 30·07 | 80 | 52 | 66· | — | | |
| 23 | E | 30·17 | 30·07 | 74 | 44 | 59· | — | | |
| 24 | NE | 30·38 | 30·15 | 72 | 42 | 57· | — | | |
| 25 | NE | 30·37 | 30·34 | 78 | 40 | 59· | ·85 | | — |
| 26 | NE | 30·37 | 30·33 | 74 | 45 | 59·5 | — | | |
| 27 | NE | 30·33 | 30·25 | 82 | 48 | 65· | — | | |
| 28 | E | 30·28 | 30·20 | 84 | 49 | 66·5 | — | | |
| 29 | E | 30·25 | 30·17 | 81 | 43 | 62· | — | | |
| 30 | E | 30·18 | 30·02 | 80 | 47 | 63·5 | ·95 | | |
| 31 | E | 30·07 | 30·00 | 91 | 52 | 71·5 | ·30 | | |
| | | 30·40 | 29·85 | 97 | 40 | 66·85 | 5·80 | | ·09 |

Notes.—Seventh Mo. 1. Showers. 2—5. Fine. 6. Cloudy, with showers. 7. Cloudy. 8—31. Fine, clear, and dry.

*** The very unusual height of the thermometer on several days of this month having led me to examine the position of the instrument, I was induced to think that it indicated a higher temperature than that of the air, in consequence of *radiation from the dry and heated earth in the neighbourhood*. To ascertain the extreme amount of this error, I suspended a thermometer in a spot thickly shaded with trees, and overhanging a river, so as to exclude the influence of radiation, and found it indicate 4° to 5° lower on the days of the greatest heat—probably the real temperature of the *air* was between the points.—R. H.

To which observation of my son's I may add, that since we experience the effect, on our persons, of this radiation from the *ground*, in very hot weather, it seems not unreasonable that a thermometer (properly defended from the direct rays) should be considered as indicating the true temperature, though it be exposed to a like degree of this influence. By referring to page 197, art. *Climate of the Mediterranean*, the reader will perceive that this month (during which the barometer was only once under 30 in. and the evaporation amounted to nearly 6 in.) had precisely the mean temperature of that southern clime. The great and steady elevation of the barometer may be referred to the great charge of vapour accumulated in the air of these latitudes.—L. H.

## RESULTS.

Winds: N, 5; NE, 4; E, 8; SE, 3; S, 1; SW, 1; W, 3; NW, 6.

| | | |
|---|---|---|
| Barometer: | Greatest height | 30·40 in. |
| | Least | 29·85 in. |
| | Mean | 30·194 in. |
| Thermometer: | Greatest height | 97° |
| | Least | 40° |
| | Mean | 66·85° |
| Evaporation | | 5·80 in. |
| Rain | | 0·09 in. |

| 1825. | | Wind. | By Clock. | | Temp. | | Med. | Evap | Hygr. at 9 a. m. | Rain, &c. |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Max. | Min. | Max. | Min. | | | | |
| 8 mo. Aug. | 1 | E | 30·09 | 30·02 | 92° | 62° | 77· | — | | |
| | 2 | SE | 30·09 | 30·02 | 82 | 55 | 68·5 | — | | 5 |
| | 3 | S | 30·05 | 29·60 | 80 | 62 | 71· | — | | 5 |
| | 4 | SW | 29·50 | 29·05 | 77 | 55 | 66· | — | | 36 |
| | 5 | SW | 29·70 | 29·50 | 75 | 55 | 65· | ·95 | | 10 |
| | 6 | W | 29·80 | 29·66 | 72 | 55 | 63·5 | — | | 70 |
| | 7 | SW | 29·87 | 29·70 | 72 | 53 | 62·5 | — | | |
| | 8 | W | 29·75 | 29·69 | 72 | 55 | 63·5 | — | | 20 |
| | 9 | W | 29·80 | 29·75 | 73 | 53 | 63· | — | | |
| | 10 | SW | 30·05 | 29·80 | 72 | 50 | 61· | — | | 15 |
| | 11 | SW | 30·13 | 30·05 | 74 | 52 | 63· | ·85 | | |
| | 12 | SW | 30·10 | 29·60 | 74 | 58 | 66· | — | | |
| | 13 | SW | 29·60 | 29·40 | 70 | 57 | 63·5 | — | | 38 |
| New M. | 14 | NW | 29·52 | 29·45 | 72 | 55 | 63·5 | — | | 3 |
| | 15 | NW | 29·90 | 29·48 | 68 | 57 | 62·5 | — | | 12 |
| | 16 | NW | 29·94 | 29·90 | 73 | 52 | 62·5 | — | | |
| | 17 | W | 30·10 | 29·92 | 79 | 59 | 69·5 | — | | 1 |
| | 18 | NW | 30·30 | 30·10 | 72 | 56 | 64· | ·83 | | |
| | 19 | NW | 30·45 | 30·25 | 69 | 44 | 56·5 | — | | |
| | 20 | N | 30·45 | 30·40 | 72 | 52 | 62· | — | | |
| | 21 | NW | 30·44 | 30·40 | 84 | 51 | 67·5 | — | | |
| | 22 | E | 30·40 | 30·27 | 78 | 55 | 66·5 | — | | |
| | 23 | NE | 30·27 | 30·19 | 79 | 50 | 64·5 | — | | |
| | 24 | NE | 30·25 | 30·18 | 84 | 49 | 66·5 | — | | |
| | 25 | NE | 30·25 | 30·21 | 81 | 49 | 65· | — | | |
| | 26 | SE | 30·25 | 30·17 | 78 | 52 | 65· | ·92 | | — |
| | 27 | E | 30·17 | 30·05 | 62 | 58 | 60· | — | | 56 |
| | 28 | NW | 30·17 | 30·10 | 70 | 60 | 65· | — | | 2 |
| | 29 | SW | 30·20 | 30·13 | 70 | 58 | 64· | — | | 20 |
| | 30 | SE | 30·20 | 30·17 | 80 | 60 | 70· | — | | |
| | 31 | E | 30·20 | 30·17 | 85 | 54 | 69·5 | ·40 | | |
| | | | 30·45 | 29·05 | 92 | 44 | 65·06 | 3·95 | | 2·93 |

NOTES.—Eighth Mo. 1. Fine. 2. Showery. 3. Fine. 4, 5. Showery. 6. Rainy: some lightning with thunder about three p. m. 7. Fine. 8. Showery. 9. Fine. 10. Showery. 11, 12. Fine. 13. Rainy. 14. Fine. 15. Cloudy. 16—20. Fine. 21. Fine sultry. 22—26. Fine. 27. Rainy. 28. Cloudy. 29. Showery. 30, 31. Sultry.

## RESULTS.

Winds: N, 1; NE, 3; E, 4; SE, 3; S, 1; SW, 8; W, 4; NW, 7.

| | | |
|---|---|---|
| Barometer: | Greatest height | 30·45 in. |
| | Least | 29·05 in. |
| | Mean | 29·996 in. |
| Thermometer: | Greatest height | 92° |
| | Least | 44° |
| | Mean | 65·06° |
| Evaporation | | 3·95 in. |
| Rain | | 2·93 in. |

### Climate of Lima.

The description of this climate may serve likewise for a great extent of the west coast of South America. The vapours from the east side of the continent, brought by the prevailing easterly wind, are condensed in their ascent, and become *rain,* before they pass the Andes: those from the narrow strip of land (as it may be called) at their *western* foot, are attracted toward those mountains, and help to form the rains there. The climate is therefore *dry:* it scarcely ever rains, and thunder and lightning are unknown; so that they build their houses *without roofs,* having merely a ceiling of wood. In their winter, beginning with our midsummer, the atmosphere is filled with a *mist,* which seldom permits the sun to appear: from this there falls a plentiful dew or drizzle, called *Garua,* by which the earth is refreshed, and vegetation promoted. (Comp. Gen. ii. 6.) The country, being artificially watered by canals, (the work of the *Incas,)* is very fruitful; and the soil being gravelly, springs abound at a small depth. While the *mists* prevail on this coast, they have fine clear weather in the mountains, a hundred miles inland: again, while it is hot and clear at *Lima,* they have thunder and rain in the *Andes.*

As in countries subject to frequent returns of rain, they have sometimes a long drought, so, here, they do not entirely escape the like reverse of climate. For at Chocope, eleven leagues from Truxillo, in eight degrees south latitude, in the year 1726, there was a continued rain of forty nights, beginning constantly at 4 or 5 p. m. and ceasing at the same hour next morning, which entirely ruined the houses. Two years after, a like phenomenon was seen for eleven or twelve days; since which time [to 1740] nothing of the kind had happened, nor had any thing like it been remembered for many years before.—See *Ulloa,* Book vii. Ch. 1.

# TABLE CCXXXII.

| 1825. | | Wind. | By Clock. | | Temp. | | Med. | Evap | Hygr. at 9 a. m. | Rain, &c. |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Max. | Min. | Max. | Min. | | | | |
| 9 mo. Sept. | 1 | NE | 30·28 | 30·17 | 84° | 53° | 68·5 | — | | |
| | 2 | NE | 30·30 | 30·25 | 83 | 52 | 67·5 | — | | |
| | 3 | SW | 30·30 | 30·10 | 78 | 52 | 65· | — | | |
| | 4 | NW | 30·13 | 30·09 | 71 | 50 | 60·5 | — | | |
| | 5 | NW | 30·13 | 30·05 | 65 | 43 | 54· | — | | |
| | 6 | NW | 30·05 | 29·80 | 71 | 46 | 58·5 | — | | |
| | 7 | NW | 29·80 | 29·64 | 81 | 55 | 68· | — | | |
| | 8 | NW | 29·78 | 29·66 | 82 | 50 | 66· | ·87 | | |
| | 9 | SW | 29·80 | 29·70 | 81 | 55 | 68· | — | | |
| | 10 | SW | 29·70 | 29·56 | 81 | 60 | 70·5 | — | | 19 |
| | 11 | SW | 29·80 | 29·63 | 76 | 56 | 66· | — | | 18 |
| New M. | 12 | S | 29·98 | 29·80 | 77 | 55 | 66· | — | | |
| | 13 | SE | 29·80 | 29·50 | 74 | 53 | 63·5 | — | | 23 |
| | 14 | NE | 29·60 | 29·44 | 73 | 60 | 66·5 | — | | 32 |
| | 15 | NW | 29·90 | 29·60 | 70 | 50 | 60· | — | | |
| | 16 | SW | 29·90 | 29·85 | 74 | 62 | 68· | — | | |
| | 17 | SE | 29·90 | 29·85 | 78 | 58 | 68· | ·90 | | 36 |
| | 18 | SW | 29·90 | 29·80 | 72 | 64 | 68· | — | | 3 |
| | 19 | SW | 29·90 | 29·83 | 72 | 56 | 64· | — | | |
| | 20 | SW | 29·85 | 29·62 | 76 | 60 | 68· | — | | 6 |
| | 21 | SW | 29·70 | 29·55 | 69 | 57 | 63· | — | | 13 |
| | 22 | NW | 30·13 | 29·55 | 66 | 44 | 55· | — | | |
| | 23 | NW | 30·13 | 30·10 | 66 | 45 | 55·5 | — | | |
| | 24 | SW | 30·17 | 30·10 | 70 | 63 | 56·5 | — | | |
| | 25 | SW | 30·13 | 30·03 | 73 | 59 | 66· | — | | 64 |
| | 26 | SW | 30·25 | 30·00 | 71 | 48 | 59·5 | — | | |
| | 27 | NW | 30·45 | 30·25 | 73 | 41 | 57· | ·94 | | |
| | 28 | NW | 30·45 | 30·39 | 66 | 41 | 53·5 | — | | |
| | 29 | E | 30·40 | 30·05 | 60 | 43 | 51·5 | — | | |
| | 30 | E | 30·05 | 29·90 | 57 | 52 | 54·5 | ·30 | | 39 |
| | | | 30·45 | 29·44 | 84 | 41 | 62·88 | 3·01 | | 2·53 |

Notes.—Ninth Mo. 1—9. Fine. 10. Day fine: rainy night. 11, 12. Fine. 13. Cloudy: several vivid flashes of lightning about eleven a. m. followed by a long peal of thunder, and a very heavy shower of rain. 14. Rainy. 15, 16. Cloudy. 17. Showery. 18—20. Cloudy. 21. Showery. 22, 23. Fine. 24. Cloudy. 25. Cloudy night: rainy. 26. Cloudy. 27. Fine: a *stratus* in the marshes at night. 28—30. Fine.

## RESULTS.

Winds: NE, 3; E, 2; SE, 2; S, 1; SW, 12; NW, 10.

| | | |
|---|---|---|
| Barometer: | Greatest height | 30·45 in. |
| | Least | 29·44 in. |
| | Mean | 29·943 in. |
| Thermometer: | Greatest height | 84° |
| | Least | 41° |
| | Mean | 62·88° |
| Evaporation | | 3·01 in. |
| Rain | | 2·53 in. |

### Climate of Quito.

An equable temperature prevails here; (under the line, but at the height of nine thousand five hundred feet above the sea;) the difference of the seasons scarcely perceptible—mornings cool, days warm, nights temperate, winds continual, never violent. "Here are dreadful tempests of thunder and lightning. The whole forenoon the weather is delightful—a bright sun, a serene sky. Afternoon, the vapours begin to rise: the atmosphere is covered with black clouds, which discharge themselves in such impetuous torrents of rain, that in a very short time the streets appear like rivers, and the squares, though situate on a slope, like lakes. Near sunset the weather clears up, and nature again puts on the beautiful appearance of the morning. Sometimes, indeed, the rains continue all night, and they have been known to last three or four days successively. In the months answering to our summer they have frequent intervals of fair weather."—*Ulloa's Voyage to South America,* edited by *Adams,* vol. i. p. 196.

From the elevated site of *Quito,* the tract on which it stands must receive a surcharge of the vapour raised from the country below, where the heat is excessive. This surcharge must necessarily be most perceptible in its effects, after the highest temperature of the day is past, when it appears that it begins to be rapidly condensed, forming thunder-clouds, which empty themselves in that elevated region; but on the abatement of the heat below, the whole atmosphere subsiding by contraction, the cool dry air above the plains of the Cordillera is brought down upon Quito, and the fair weather restored.

| 1825. | | Wind. | By Clock. | | Temp. | | Med. | Evap | Hygr. at 9 a. m. | Rain, &c. |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Max. | Min. | Max. | Min. | | | | |
| 10 mo. Oct. | 1 | SE | 29·90 | 29·73 | 65° | 53° | 59· | — | | — |
| | 2 | SE | 29·77 | 29·72 | 65 | 49 | 57· | — | | — |
| | 3 | SE | 29·88 | 29·70 | 65 | 53 | 59· | — | | 39 |
| | 4 | SW | 30·20 | 29·90 | 68 | 48 | 58· | — | | 17 |
| | 5 | S | 30·20 | 30·12 | 67 | 57 | 72· | — | | 14 |
| | 6 | S | 30·10 | 29·60 | 67 | 53 | 60· | — | | 52 |
| | 7 | SW | 30·17 | 29·53 | 59 | 48 | 53·5 | — | | — |
| | 8 | SW | 30·12 | 29·80 | 64 | 50 | 57· | — | | 11 |
| | 9 | W | 30·30 | 30·00 | 64 | 58 | 61· | — | | |
| | 10 | SW | 30·45 | 30·30 | 61 | 57 | 59· | — | | |
| New M. | 11 | SW | 30·42 | 30·20 | 65 | 43 | 54· | ·83 | | |
| | 12 | SE | 30·25 | 30·14 | 68 | 48 | 58· | — | | |
| | 13 | NW | 30·30 | 30·25 | 65 | 40 | 52·5 | — | | |
| | 14 | SE | 30·50 | 30·20 | 63 | 40 | 51·5 | — | | |
| | 15 | NW | 30·67 | 30·50 | 63 | 32 | 47·5 | — | | |
| | 16 | NW | 30·60 | 30·30 | 61 | 35 | 48· | — | | |
| | 17 | SW | 30·24 | 30·17 | 56 | 40 | 48· | — | | — |
| | 18 | SW | 30·20 | 29·40 | 54 | 45 | 49·5 | — | | 32 |
| | 19 | NW | 29·40 | 28·72 | 53 | 33 | 43· | — | | 40 |
| | 20 | N | 29·00 | 28·72 | 45 | 36 | 40·5 | — | | |
| | 21 | N | 29·45 | 29·00 | 47 | 36 | 41·5 | — | | |
| | 22 | N | 29·95 | 29·45 | 57 | 25 | 41· | — | | |
| | 23 | NW | 30·20 | 29·95 | 49 | 38 | 43·5 | — | | |
| | 24 | W | 30·20 | 30·00 | 55 | 38 | 46·5 | — | | — |
| | 25 | NW | 30·00 | 29·87 | 58 | 27 | 42·5 | — | | |
| | 26 | NW | 30·16 | 29·87 | 45 | 35 | 40· | — | | |
| | 27 | N | 30·15 | 30·00 | 51 | 40 | 45·5 | — | | |
| | 28 | NW | 30·12 | 30·05 | 58 | 50 | 54· | ·98 | | |
| | 29 | W | 30·10 | 30·00 | 60 | 41 | 50·5 | — | | 12 |
| | 30 | W | 30·06 | 29·80 | 57 | 42 | 59·5 | — | | 8 |
| | 31 | NW | 30·10 | 30·00 | 61 | 44 | 52·5 | ·20 | | 2 |
| | | | 30·67 | 28·72 | 68 | 25 | 52·10 | 2·01 | | 2·27 |

Notes.—Tenth Mo. 1. Cloudy. 2, 3. Rainy in the mornings. 4. Fine. 5. Cloudy and fine. 6. Cloudy: night stormy. 7. Cloudy and fine, [blew hard all night.—R. S.] 8. Fine. 9. Cloudy. 10—12. Fine. 13. Fine: a *Stratus* on the marshes. 14. Fine, [very thick fog, 7 a. m.—R. S.] 15. Fine: foggy at night. 16. Foggy morning: very fine day. 17, 18. Cloudy. 19. Rainy. 20. Fine: a little snow at four p. m. [23. Thick fog at noon.—R. S.] 21—28. Fine. 29. Cloudy. 30. Cloudy. 31. Fine.

## RESULTS.

Winds: N, 4; SE, 5; S, 2; SW, 7; W, 4; NW, 9.

| | | |
|---|---|---|
| Barometer: | Greatest height | 30·67 in. |
| | Least | 28·72 in. |
| | Mean | 29·648 in. |
| Thermometer: | Greatest height | 68° |
| | Least | 25° |
| | Mean | 52·10° |
| Evaporation | | 2·01 in. |
| Rain | | 2·27 in. |

### Climate of Viviers.

*Viviers* is seventy or eighty miles up the Rhone, *north* of the Mediterranean, and near six hundred miles *south* of London. On an average of forty years (from 1777 to 1818] the mean rain is thirty-four inches [near thirty-six and a quarter English] per annum. The greatest weight of rain follows the autumnal equinox, *but earlier than with us.* The fore part of the spring is dry, the latter part somewhat wet; then, a very dry season in the summer months. There is a good *curve* of their rain, in *Bibl. Universelle,* tom. 8. What is most remarkable in the Memoir of *Honoré Flaugergues* on the subject relates to an increase in the annual amount of rain, corresponding with the decrease of their wood, the forests in the Ardêche having been gradually cleared. The following are the proportions in four decades of years:

| | | In. Li. | | |
|---|---|---|---|---|
| 1778—1787, | Rain per an. | 31. 1. | Wet days | 830 |
| 1788—1797, | —— | 33. 2. | —— | 947 |
| 1798—1807, | —— | 34. 2. | —— | 1062 |
| 1808—1817. | —— | 37. 4. | —— | 1082 |

As Flaugergues is evidently a good observer, I think it worth while to seek a cause for this apparent anomaly, it being generally understood *that the clearing of a country from wood makes the climate less rainy.* Rain is formed, in part, out of vapour imported with the reigning wind, in part from what is returned from the soil by evaporation, during the process. Now the latter source, in a woody country, is probably much less productive than in an exposed one; for the surface of arable and meadow land dries speedily in summer to a great depth, while that under a forest retains most of its water. The rains in this district, *while the wood remained,* were therefore chiefly fed from the Mediterranean, and the surplus water ran off by the brooks and rivers. But upon the clearing of the country, vapour from the soil was plentifully added to the supply imported by the winds; whence a greater weight of *autumnal rain,* with probably *a drier atmosphere and better weather* in the remainder of the seasons. What effect *the freer passage of the winds,* upon the clearing of the country, might have in promoting both evaporation and rain, is worthy of being considered in connexion with these causes.—L. H.

| 1825. | | Wind. | By Clock. | | Temp. | | Med. | Evap | Hygr. at 9 a. m. | Rain, &c. |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Max. | Min. | Max. | Min. | | | | |
| 11 mo. Nov. | 1 | NW | 29·95 | 29·72 | 56° | 43° | 49·5 | — | | — |
| | 2 | NW | 29·83 | 28·87 | 55 | 45 | 50· | — | | 8 |
| | 3 | W | 29·81 | 28·87 | 53 | 32 | 42·5 | — | | |
| | 4 | NW | 30·05 | 29·75 | 48 | 28 | 38· | — | | |
| | 5 | NW | 30·00 | 29·17 | 54 | 30 | 42· | — | | 2 |
| | 6 | NW | 29·68 | 29·17 | 58 | 30 | 44· | — | | — |
| | 7 | NW | 29·27 | 29·20 | 54 | 31 | 42·5 | — | | — |
| | 8 | S | 29·43 | 29·27 | 50 | 34 | 42· | — | | 60 |
| | 9 | W | 29·40 | 28·89 | 45 | 32 | 38·5 | — | | 46 |
| New M. | 10 | NE | 29·27 | 28·80 | 47 | 35 | 41· | — | | 40 |
| | 11 | NW | 29·45 | 28·70 | 41 | 32 | 36·5 | — | | |
| | 12 | NW | 29·90 | 29·45 | 38 | 22 | 30· | ·45 | | |
| | 13 | SW | 30·00 | 29·90 | 38 | 29 | 33·5 | — | | |
| | 14 | NW | 30·00 | 29·90 | 40 | 32 | 36· | — | | |
| | 15 | N | 30·20 | 29·90 | 43 | 26 | 34·5 | — | | |
| | 16 | SW | 30·30 | 30·10 | 42 | 31 | 36·5 | — | | |
| | 17 | S | 30·10 | 29·95 | 48 | 32 | 40· | — | | 15 |
| | 18 | SW | 30·00 | 29·80 | 58 | 37 | 47·5 | — | | 8 |
| | 19 | W | 30·27 | 29·98 | 46 | 30 | 38· | — | | — |
| | 20 | SW | 30·27 | 29·80 | 52 | 32 | 42· | — | | 2 |
| | 21 | SW | 29·95 | 29·80 | 54 | 38 | 46· | — | | 22 |
| | 22 | NW | 30·38 | 29·95 | 47 | 28 | 38·5 | — | | |
| | 23 | W | 30·38 | 30·16 | 48 | 31 | 39·5 | — | | — |
| | 24 | NW | 30·30 | 30·05 | 53 | 40 | 46·5 | ·43 | | 20 |
| | 25 | NW | 30·42 | 30·00 | 46 | 32 | 39· | — | | |
| | 26 | W | 30·01 | 29·75 | 45 | 35 | 40· | — | | 10 |
| | 27 | W | 30·01 | 29·20 | 51 | 39 | 45· | — | | 6 |
| | 28 | SW | 29·20 | 28·95 | 52 | 40 | 46· | — | | 54 |
| | 29 | SW | 29·40 | 28·90 | 48 | 33 | 40·5 | — | | 6 |
| | 30 | NW | 29·20 | 28·90 | 40 | 22 | 31· | ·32 | | |
| | | | 30·42 | 28·70 | 58 | 22 | 40·55 | 1·20 | | 2·99 |

Notes.—Eleventh Mo. 1. Fine. 2. Fine: very boisterous all night. 3. A furious wind all day from the westward. 4. Fine. 5. Day fine: night stormy. 6. Cloudy. 7. Fine. 8. Cloudy and fine: rain at night. 9. Fine: rain during the night. 10. Rainy morning: wet day. 11. Cloudy. 12. Fine. 13. White frost. 14. White frost and foggy: fine. 15. Fine. 16. Fine. 17. Drizzly. 18. Drizzly: a slight coloured parhelion about ten a. m. 19. Fine. 20. Foggy morning: fine day. 21. Rainy. 22. Fine. 23. Cloudy

morning: fine afternoon. 24. Rainy. 25. Fine. 26. Rainy. 27. Cloudy. 28. Fine. 29. Rainy, [Strong gale at NW in night.—R. S.] 30. Fine.

## RESULTS.

Winds: N, 1; NE, 1; S, 2; SW, 7; W, 6; NW, 13.

| | | |
|---|---|---|
| Barometer: | Greatest height | 30·42 in. |
| | Least | 28·70 in. |
| | Mean | 29·681 in. |
| Thermometer: | Greatest height | 58° |
| | Least | 22° |
| | Mean | 40·55° |
| Evaporation | | 1·20 in. |
| Rain | | 2·99 in. |

### Climate of Buenos Ayres.

*Buenos Ayres* is in lat. 35° S. The climate here differs little from that of Spain, and the distribution of the seasons is the same, [but the time of course reversed.] In winter, indeed, violent tempests of wind and rain are very frequent, accompanied with dreadful thunders and lightnings. In summer, the excessive heats are mitigated by gentle breezes, which constantly begin at 8 or 9 a. m.—*Ulloa.*

The " gentle breezes," which are here said to mitigate the summer, may be the means of transporting to the higher parts of the country the prodigious stores of vapour, which must be required at this season to supply the continual heavy rains in the Cordilleras of the Andes. It appears, that while the weather is dry below, the rivers are full, and *vice versa*—the chief supply to these being derived from the higher country.

| 1825. | Wind. | By Clock. | | Temp. | | Med. | Evap | Hygr. at 9 a.m. | Rain, &c. |
|---|---|---|---|---|---|---|---|---|---|
| | | Max. | Min. | Max. | Min. | | | | |
| 12 mo. Dec. 1 | E | 29·60 | 28·90 | 42° | 26° | 34· | — | | 40 |
| 2 | NW | 29·18 | 28·90 | 46 | 40 | 43· | — | | — |
| 3 | SW | 29·28 | 29·12 | 45 | 37 | 41· | — | | |
| 4 | NW | 29·45 | 29·15 | 39 | 27 | 33· | — | | 45 |
| 5 | NE | 29·41 | 29·30 | 48 | 35 | 41·5 | — | | 50 |
| 6 | S | 29·41 | 29·22 | 50 | 35 | 42·5 | — | | |
| 7 | SE | 29·36 | 29·22 | 52 | 36 | 44· | — | | |
| 8 | E | 29·40 | 29·36 | 43 | 42 | 42·5 | — | | |
| New M. 9 | NE | 29·70 | 29·40 | 45 | 42 | 43·5 | — | | — |
| 10 | NW | 29·82 | 29·70 | 46 | 42 | 44· | — | | 15 |
| 11 | NW | 29·92 | 29·82 | 45 | 35 | 40· | — | | — |
| 12 | NW | 29·92 | 29·80 | 42 | 36 | 39· | — | | 2 |
| 13 | NW | 29·80 | 29·28 | 52 | 40 | 46· | — | | 26 |
| 14 | S | 29·70 | 29·20 | 46 | 37 | 41·5 | — | | 21 |
| 15 | W | 29·80 | 29·60 | 56 | 40 | 48· | — | | 2 |
| 16 | W | 29·90 | 29·76 | 58 | 50 | 54· | — | | 25 |
| 17 | SW | 29·86 | 29·70 | 58 | 45 | 51·5 | — | | |
| 18 | SW | 29·70 | 29·35 | 57 | 50 | 53·5 | — | | 10 |
| 19 | SW | 29·50 | 29·35 | 53 | 42 | 47·5 | ·46 | | — |
| 20 | SE | 29·50 | 29·40 | 52 | 48 | 50· | — | | |
| 21 | SE | 29·60 | 29·47 | 53 | 50 | 41·5 | — | | 9 |
| 22 | E | 29·93 | 29·60 | 54 | 50 | 52· | — | | |
| 23 | W | 30·13 | 29·80 | 50 | 40 | 45· | — | | 15 |
| 24 | W | 30·20 | 29·77 | 55 | 42 | 48·5 | — | | |
| 25 | SW | 30·05 | 29·77 | 56 | 43 | 49·5 | — | | |
| 26 | SW | 29·90 | 29·80 | 42 | 25 | 33·5 | — | | — |
| 27 | NW | 29·90 | 29·65 | 36 | 28 | 32· | — | | |
| 28 | NW | 29·65 | 29·57 | 40 | 32 | 36· | — | | |
| 29 | NW | 29·68 | 29·57 | 36 | 33 | 34·5 | — | | |
| 30 | NW | 29·80 | 29·68 | 38 | 28 | 33· | — | | |
| 31 | NW | 29·81 | 29·80 | 38 | 27 | 32·5 | ·45 | | 10 |
| | | 30·20 | 28·90 | 58 | 25 | 42·52 | ·91 | | 2·70 |

Notes.—Twelfth Mo. 1. Fine. 2. Morning rainy: afternoon fine. 3. Fine. 4. Rainy. 5. Very wet morning and evening. 6—8. Fine. 9, 10. Cloudy. 11, 12. Mornings foggy. 13. Fine. 14. Rainy. 15. Fine. 16. Fine: night rainy. 17. Drizzly. 18. Fine. 19. Rainy morning. 20. Fine. 21. Cloudy. 22. Gloomy: 32. Gloomy: rain at night. 24. Fine. 25. Morning gloomy: drizzly: afternoon fine. 26. Rainy evening. 27. Fine: clear and frosty. 28. Ground covered with snow this morning: gloomy. 29. Overcast. 30. Gloomy. 31. Fine.

## RESULTS.

Winds: NE, 2; E, 3; SE, 3; S, 2; SW, 6; W, 4; NW, 11.

| | | |
|---|---|---|
| Barometer: | Greatest height | 30·20 in. |
| | Least | 28·90 in. |
| | Mean | 29·894 in. |
| Thermometer: | Greatest height | 58° |
| | Least | 25° |
| | Mean | 42·52° |
| Evaporation | | 0·91 in. |
| Rain | | 2·70 in. |

*Winds found by observing the Currents.*

Near the Tropic, [of Capricorn,] that is, between the parallels of 14° or 16° and 28°, calms greatly prevail during the months of January, February, and even March; but near the coast [of Peru or Chili] they are not so common, on account of the land breezes, which are always between the SE and ESE. Formerly, and even till within these few years, [1742,] the voyage to and from Callao to Chili, was rarely performed in less than a twelvemonth, owing to a fear of standing off: for by tacking along the shore they made but little way. But an European pilot, making his first voyage in the usual manner, observed that the course of the *currents* was from the W and SW, whence he concluded that winds from those quarters [more favourable to his course] might be found farther off at sea. Accordingly, in his second voyage, he stood off to a great distance, in order to fall in with those winds, and had the satisfaction of finding that he was not mistaken, so that he reached Chili in little more than thirty days. *He was suspected of sorcery, and the Inquisition caused him to be apprehended;* but on examining his journals they applauded his sagacity. Thus he had the honour of leading the way in the expeditious course which has ever since been followed.—*Ulloa,* Book viii. Chap. 3.

| 1826. | | Wind. | By Clock. | | Temp. | | Med. | Evap | Hygr. at 9 a. m. | Rain, &c. |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Max. | Min. | Max. | Min. | | | | |
| 1 mo. Jan. | 1 | NW | 29·84 | 29·70 | 47° | 36° | 41·5 | — | | — |
| | 2 | E | 29·88 | 29·84 | 46 | 28 | 37· | — | | |
| | 3 | E | 29·93 | 29·88 | 46 | 33 | 39·5 | — | | |
| | 4 | E | 29·94 | 29·90 | 36 | 34 | 35· | — | | |
| | 5 | E | 29·91 | 29·74 | 38 | 33 | 35·5 | — | | 16 |
| | 6 | E | 29·86 | 29·74 | 40 | 37 | 38·5 | — | | 4 |
| | 7 | NE | 30·00 | 29·86 | 38 | 33 | 35·5 | — | | |
| New M. | 8 | SE | 30·06 | 30·00 | 33 | 25 | 29· | — | | — |
| | 9 | E | 30·06 | 29·84 | 33 | 20 | 26·5 | — | | |
| | 10 | NW | 29·84 | 29·65 | 32 | 25 | 28·5 | — | | |
| | 11 | NW | 29·77 | 29·74 | 35 | 18 | 26·5 | — | | — |
| | 12 | NW | 30·00 | 29·77 | 32 | 17 | 24·5 | — | | |
| | 13 | W | 30·10 | 30·00 | 33 | 16 | 24·5 | — | | |
| | 14 | W | 30·33 | 30·10 | 24 | 10 | 17· | — | | |
| | 15 | NW | 30·60 | 30·33 | 29 | 12 | 20·5 | — | | |
| | 16 | NW | 30·64 | 30·60 | 30 | 15 | 22·5 | — | | |
| | 17 | E | 30·65 | 30·50 | 33 | 22 | 27·5 | — | | |
| | 18 | SW | 30·50 | 30·13 | 46 | 35 | 40·5 | — | | |
| | 19 | NW | 30·22 | 30·11 | 45 | 34 | 39·5 | — | | |
| | 20 | NW | 30·28 | 30·20 | 46 | 39 | 42·5 | — | | |
| | 21 | SW | 30·27 | 30·19 | 44 | 33 | 38·5 | ·48 | | — |
| | 22 | NW | 30·27 | 30·20 | 42 | 32 | 37· | — | | |
| | 23 | W | 30·49 | 30·21 | 43 | 33 | 38· | — | | |
| | 24 | N | 30·47 | 30·40 | 39 | 35 | 37· | — | | |
| | 25 | SE | 30·39 | 30·34 | 34 | 32 | 33· | — | | |
| | 26 | E | | | 36 | 24 | 30· | — | | |
| | 27 | E | | | 36 | 28 | 32· | — | | |
| | 28 | SE | 30·26 | 30·17 | 39 | 27 | 33· | — | | |
| | 29 | N | 30·17 | 29·75 | 43 | 28 | 35·5 | — | | |
| | 30 | N | 29·80 | 29·71 | 44 | 39 | 41·5 | — | | |
| | 31 | N | 29·90 | 29·79 | 45 | 38 | 41·5 | ·23 | | |
| | | | 30·65 | 29·70 | 47 | 10 | 33·19 | ·71 | | ·20 |

Notes.—First Mo. 1. Rainy morning. 2—4. Fine. 5. Snow and sleet. 6, 7. Cloudy. 8. Fine: very bleak wind, with occasional showers of hail and snow. 9. Fine. 10. Overcast: bleak. 11. Snow. 12, 13. Fine. 14. Foggy. 15. Very fine: much rime on the trees. 16, 17. Ditto. 18. Fine. 19. Cloudy: a gentle thaw. 20. Cloudy. 21. Foggy: drizzly. 22—25. Foggy. 26—30. Fine. [Barom. 26. 30·34, 30·31. 27. 30·31, 30·26.] 31. Overcast.

## RESULTS.

Winds: N, 4; NE, 1; E, 8; SE, 3; SW, 3; W, 3; NW, 9.

| | | |
|---|---|---|
| Barometer: | Greatest height | 30·65 in. |
| | Least | 29·70 in. |
| | Mean | 30·104 in. |
| Thermometer: | Greatest height | 47° |
| | Least | 10° |
| | Mean | 33·19° |
| Evaporation | | 0·71 in. |
| Rain | | 0·20 in. |

*Plymouth, Jan.* 7.—Wind E.

*Falmouth, Jan.* 8.—Wind E. fresh gales and clear.

*Liverpool, Jan.* 8.—Wind E. moderate.

*Portsmouth, Jan.* 8.—Wind E. hard gale.

*Jan.* 9.—Wind ENE, blowing very hard.

*Cowes, Jan.* 9.—Wind E. strong gales.

*Deal, Jan.* 9.—It has continued blowing strong from the eastward all this day.

On Thursday morning, between one and two o'clock, as a person was passing through Paternoster Row, he observed the watchman on that beat in a state of complete paralysis [say, insensibility] occasioned by the frost. He had him immediately removed to the watch-house of Farringdon Within, where he had not long arrived when a fellow-sufferer was brought in by two of the patrol, who found him in his box, in Stationers' Court, Ludgate Hill, absolutely frozen, and unable to articulate a syllable. Both were immediately placed near the fire, the influence of which, combined with the administration of warm cordials, shortly restored their suspended faculties.

The thermometer at the Royal Exchange yesterday, at twelve o'clock, stood at 28°.—*P. L. Jan.* 14.

The river is so completely choked up with ice, that the fishing boats, with fish, dare not come higher up than Limehouse. Putney Bridge arches are choked up with ice, formed by the ebbing and flowing of the tide, to a great height.

At one o'clock yesterday afternoon [16th] the fog in the city was as dense as we ever recollect to have known it. Lamps and candles were lighted in all the shops and offices, and the carriages in the streets dared not exceed a foot pace. At the same time, five miles from town the atmosphere was clear and unclouded, with a brilliant sun. Fahrenheit's thermometer stood at 14° at eight o'clock in the morning.

*Newcastle.*—On Sunday morning last a severe frost set in here, and has continued since. A considerable quantity of snow has fallen during the week.

*Sunderland.*—The river Wear has been frozen over for the last four days, down to Hilton Ferry, within four miles of this town. The navigation above that place is entirely suspended.

*Carlisle.*—A smart frost set in here on Monday morning, and has continued gradually increasing up to this day (Friday) in severity. The river Eden is more than half frozen over near the bridge, and many persons are diverting themselves on its surface. On Tuesday we had a partial fall of snow, which still continues.

*Westmoreland.*—On Stainmore the weather has been more severe during the last week than it has been known for four years past. The frost is not only more than usually intense, but the snow lies in fearful drifts; and the wind on Friday and Saturday blew a perfect hurricane, rendering it extremely difficult, if not dangerous, to travel.—*P. L. Jan.* 17.

*Chester.*—The frost during the last week has been intensely severe, and the wind is gentle and blowing almost constantly from the eastward. The thermometer on Saturday morning stood at 17°, or 15° below the freezing point. On Friday last the temperature in Manchester was as low as 16°, and this in the very centre of the town, where the crowded buildings, and immense fires kept in the manufactories, must have had some effect on the atmosphere. On the 18th of January, 1814, the extreme temperature was 22° below the freezing point; on the 21st of February, 1810, it was the same. On the 18th of July last the thermometer stood at 114° in a southern aspect indeed, but not absolutely in the sun.

*Liverpool.*—The weather during the last week has been intensely cold, the thermometer for the last few days having been lower than during the past five years. A self-registering thermometer denoted the extreme of cold on Saturday night to have been 19°, and yesterday (Sunday) morning, at half-past seven, it stood at 20°, it being 12° degrees below the freezing point. It is very probable the present weather may continue several days, as it commenced with the new moon.

*Bridgewater.*—Our river is so completely frozen over, as to impede the navigation; fortunately there is a good supply of coals in the town.

*Canterbury, Jan.* 17.—The river Medway is frozen over, and the navigation is stopped. The merchants have advanced the price of coals six shillings a chaldron.

The Royal Military Canal being now completely frozen over, numerous parties are daily skaiting thereon; and it is not unusual to take a breakfast at Hythe, a luncheon at Rye (about twenty miles glide,) and return to Hythe to dinner.

*Elsineur, Jan.* 14.—The Sound is full of ice, and the navigation suspended.

*Hamburgh, Jan.* 20.—The frost is very intense, and every appearance of its continuance.

Extract from a private letter, dated Cadiz, Jan. 24.—" We have had terrible gales at this place; so violent have they been, that upwards of two hundred and fifty vessels were driven on shore.

*Rotterdam, Jan.* 27.—We have had frost again from the 25th, but very moderate, and the ice has but little increased. The wind prevails from the eastward, and there is no appearance of a thaw.

*Antwerp, Jan.* 17.—The river continues full of drift ice. An easterly wind took place on the 25th.

*Jan.* 31.—The ice decreases very fast, and if the thaw continues, for which there is every appearance, the river will be navigable in two days.

### *Effects of the Aurora Borealis on the Magnetic Needle.*

John Richardson, M.D. Surgeon and Naturalist to the Land Arctic Expedition, found that the Aurora disturbs the needle most when the coruscations are coloured, brilliant, and active; and that with a steady, dense light, of a yellow colour, in a clear air, the needle is

often unaffected. The reason of this difference may be, *that in the latter case the luminous matter has lost its polarity.* We see, in our own latitudes, clouds and spots of such luminous matter, succeeding to, or mixed with the streamers.

He says, that the aurora is generally most active, *when it seems to have emerged from a cloud near the earth.* There is sometimes, under the arch from which the streamers arise, in these latitudes, a dark space, which I have judged to be merely the clear sky beyond. At other times, I have seen *Cirrostratus* clouds, very distinctly formed, in the quarter from which the streamers emerged.

On several occasions it was seen [by him] *to illuminate the under surface of dense clouds;* and when the sky was clear otherwise, a haziness was perceptible about the coruscations: four times they were observed very distinctly before daylight had disappeared; and *the clouds* in the day-time were often perceived *to be disposed in streams and arches,* such as the aurora assumes.

All these circumstances confirm to me an opinion I have long entertained, that the matter constituting the luminous beams, or clouds, of the aurora, is *electric,* and that it is *evolved during the condensation of vapour into snow,* in situations where it finds no sufficient conductor, to take it to the earth. It should then, according to what we see in our experiments with the air-pump and electrical machine, rise, in such streams as these, into the pure atmosphere above, and moving towards the nearest place where a conductor is afforded, seize the diffused vapour, and making that into clouds, (of which the *Cirrus* will be the first to appear,) descend, in snow or rain, to the earth.

Out of three hundred and forty-three observations, registered at Bear Lake, [Lat 65°,] in 1825—6, *not one presented any sound with the coruscations;* nor was the gold leaf electrometer ever affected by it. A low temperature, and the space of time between last quarter and new moon, were found most favourable to the phenomenon.—L. H.

| 1826. | | Wind. | By Clock. | | Temp. | | Med. | Evap | Hygr. at 9 a. m. | Rain, &c. |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Max. | Min. | Max. | Min. | | | | |
| 2 mo. Feb. | 1 | NE | 29·90 | 29·75 | 45° | 40° | 42·5 | — | | — |
| | 2 | SW | 29·87 | 29·74 | 50 | 41 | 46·5 | — | | |
| | 3 | S | 29·97 | 29·70 | 58 | 40 | 49·5 | — | | — |
| | 4 | SE | 29·97 | 29·90 | 48 | 40 | 44· | — | | |
| | 5 | SW | 29·91 | 29·52 | 51 | 43 | 47· | — | | 16 |
| | 6 | SW | 30·10 | 29·50 | 51 | 40 | 45·5 | — | | 1 |
| New M. | 7 | W | 30·43 | 30·10 | 47 | 24 | 35·5 | — | | |
| | 8 | S | 30·42 | 30·37 | 46 | 23 | 34·5 | — | | |
| | 9 | NE | 30·37 | 30·30 | 45 | 20 | 32·5 | — | | |
| | 10 | E | 30·33 | 30·23 | 38 | 29 | 33·5 | — | | |
| | 11 | SE | 30·23 | 30·14 | 45 | 30 | 37·5 | ·48 | | |
| | 12 | S | 30·25 | 30·12 | 49 | 35 | 42· | — | | |
| | 13 | SW | 30·20 | 29·97 | 48 | 39 | 43·5 | — | | 5 |
| | 14 | S | 30·15 | 29·97 | 47 | 45 | 46· | — | | 17 |
| | 15 | S | 29·97 | 29·78 | 54 | 40 | 47· | — | | 2 |
| | 16 | S | 29·80 | 29·34 | 52 | 45 | 48·5 | — | | 11 |
| | 17 | SW | 29·80 | 29·37 | 48 | 32 | 40· | — | | 16 |
| | 18 | SW | 29·95 | 29·51 | 44 | 32 | 38· | — | | 1 |
| | 19 | SW | 29·95 | 29·51 | 55 | 42 | 48·5 | — | | 23 |
| | 20 | W | 30·35 | 29·95 | 45 | 37 | 41· | ·47 | | 6 |
| | 21 | NW | 30·43 | 30·01 | 52 | 40 | 46·5 | — | | 15 |
| | 22 | SW | 30·01 | 29·94 | 53 | 42 | 47·5 | — | | 13 |
| | 23 | W | 30·22 | 29·89 | 50 | 32 | 41· | — | | — |
| | 24 | W | 30·25 | 30·06 | 51 | 36 | 43·5 | — | | 28 |
| | 25 | W | 30·50 | 30·08 | 54 | 37 | 45·5 | — | | |
| | 26 | W | 30·54 | 30·32 | 40 | 36 | 38· | — | | |
| | 27 | NW | 30·32 | 30·15 | 42 | 36 | 39· | — | | |
| | 28 | NW | 30·30 | 30·12 | 55 | 46 | 50·5 | ·48 | | |
| | | | 30·54 | 29·34 | 58 | 20 | 42·59 | 1·43 | | 1·54 |

Notes.—Second Mo. 1. Drizzly. 2. Fine. 3. Overcast: rainy. 4. Cloudy. 5. Morning fine: afternoon cloudy: night rainy. 6. Cloudy: windy. 7. Very fine day. 8. Morning foggy, with white frost. 9—13. Fine. 14. Drizzly. 15. Ditto. 16. Fine. 17. Showery. 18. Cloudy. 19, 20. Fine. 21. Showery. 22. Fine. 23. Drizzly. 24—28. Fine.

## RESULTS.

Winds: NE, 2; E, 1; SE, 2; S, 6; SW, 8; W, 6; NW, 3.

| | | |
|---|---|---|
| Barometer: | Greatest height | 30·54 in. |
| | Least | 29·34 in. |
| | Mean | 30·098 in. |
| Thermometer: | Greatest height | 58° |
| | Least | 20° |
| | Mean | 42·59° |
| Evaporation | | 1·43 in. |
| Rain | | 1·54 in. |

*Falmouth, Feb.* 5.—The wind SSW, strong gales, and thick dirty weather. No arrivals nor sailings.

*Plymouth, Feb.* 5.—It has blown a tremendous gale from the SW, during the whole of this day, and (seven p. m.) continues with unabated fury.

*Portsmouth, Feb.* 6.—It blew a heavy gale all last night and this day from SW, and continues unabated (seven o'clock.) The whole of the shipping have rode without damage. No arrivals nor sailings.

*Cowes, Feb.* 6.—Wind SSW, heavy gales.

*Deal, Feb.* 6.—Wind SW. Throughout the day it has blown very hard from SW to SSW, when several of the ships drove, and others were riding by their second anchor. Five p. m.—It continues to blow very hard in squalls.

*Portsmouth, Feb.* 17.—It blew a gale last night at SSW, and has been squally all this day from SW.

*Cowes, Feb.* 17.—Wind SSW, strong gales.

### *Character of the Winds, &c. in the South Pacific Ocean.*

Winter on the west coast of South America sets in with our summer, and earlier as the latitude is more southerly. In all latitudes beyond 20°, it is ushered in with *northerly* winds, as with us by southerly. These are very terrible in the southern winters; and the more so as we go more south. In this sea, a change of the wind from N to NE is a sure sign of stormy weather; for the wind is never fixed in the NE, [no doubt from the obstruction presented by the lofty chain of the Andes,] nor does it ever change from thence to the E; its constant variation being to the W or SW, contrary to what is seen in the northern hemisphere. In *both* the change of the wind usually corresponds with the course of the sun; [the reverse here also indicates foul weather;] hence, as with us, it changes from E to S, and thence to W; *there* it is from E to N, and thence to W.—*Ulloa,* book viii. chap. 3.

| 1826. | | Wind. | By Clock. | | Temp. | | Med. | Evap | Hygr. at 9 a. m. | Rain, &c. |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Max. | Min. | Max. | Min. | | | | |
| 3 mo. March | 1 | SW | 30·10 | 29·66 | 52° | 48° | 50· | — | | |
| | 2 | SW | 29·92 | 29·66 | 55 | 50 | 52·5 | — | | 36 |
| | 3 | SW | 29·92 | 29·69 | 50 | 40 | 45· | — | | 15 |
| | 4 | SW | 30·27 | 29·92 | 56 | 38 | 47· | — | | 15 |
| | 5 | SW | 30·25 | 29·87 | 42 | 30 | 36· | — | | |
| | 6 | SW | 30·16 | 29·85 | 52 | 37 | 44·5 | — | | 7 |
| | 7 | SW | 30·25 | 30·10 | 54 | 48 | 51· | ·42 | | 5 |
| New M. | 8 | SE | 30·44 | 30·24 | 52 | 46 | 49· | — | | 2 |
| | 9 | E | 30·44 | 30·42 | 67 | 46 | 56·5 | — | | |
| | 10 | E | 30·57 | 30·41 | 70 | 40 | 55· | — | | |
| | 11 | SE | 30·57 | 30·52 | 50 | 30 | 40· | — | | |
| | 12 | E | 30·55 | 30·07 | 42 | 29 | 35·5 | ·43 | | |
| | 13 | E | 30·07 | 29·92 | 43 | 29 | 36· | — | | 10 |
| | 14 | SE | 30·26 | 29·92 | 54 | 39 | 46·5 | — | | 10 |
| | 15 | NW | 30·51 | 30·26 | 54 | 30 | 42· | — | | |
| | 16 | N | 30·52 | 30·35 | 50 | 25 | 37·5 | — | | |
| | 17 | NW | 30·35 | 29·93 | 48 | 24 | 36· | — | | |
| | 18 | NW | 30·09 | 29·90 | 53 | 29 | 41· | — | | |
| | 19 | NW | 30·10 | 30·00 | 50 | 31 | 40·5 | ·47 | | 9 |
| | 20 | NW | 30·10 | 30·00 | 51 | 30 | 40·5 | — | | |
| | 21 | NE | 30·00 | 29·90 | 44 | 36 | 40· | — | | |
| | 22 | NE | 29·90 | 29·44 | 45 | 30 | 37·5 | — | | |
| | 23 | NE | 29·80 | 29·43 | 40 | 33 | 36·5 | — | | 37 |
| | 24 | NE | 29·80 | 29·77 | 40 | 34 | 37· | — | | |
| | 25 | NE | 29·88 | 29·76 | 46 | 34 | 40· | — | | |
| | 26 | NE | 30·04 | 29·88 | 42 | 30 | 36· | — | | — |
| | 27 | NE | 30 04 | 29·80 | 46 | 31 | 38·5 | ·48 | | |
| | 28 | W | 29·80 | 29·60 | 52 | 42 | 47· | — | | |
| | 29 | NW | 30·20 | 29·67 | 50 | 30 | 40· | — | | |
| | 30 | NW | 30·45 | 30·20 | 50 | 24 | 37· | — | | |
| | 31 | NW | 30·48 | 30·42 | 54 | 27 | 40·5 | ·33 | | |
| | | | 30·57 | 29·43 | 70 | 24 | 42·32 | 2·13 | | 1·46 |

Notes.—Third Mo. 1. Fine. 2, 3. Rainy. 4. Wet morning. 5. Fine. 6. Showery. 7. Rainy. 8. Rainy morning. 9—12. Fine. 13. Fine day: rain at night. 14. Fine. 15. Cloudy and fine. 16—18. Fine. 19. Showery. 20, 21. Fine. 22. Cloudy. 23. Rainy evening: a considerable fall of snow in the night. 24. Cloudy. 25. Cloudy and fine. 26. Fine: a shower of hail at one p. m. 27—31. Fine.

## RESULTS.

Winds: N, 1; NE, 7; E, 4; SE, 3; SW, 7; W, 1; NW, 8.

| | | |
|---|---|---|
| Barometer: | Greatest height | 30·57 in. |
| | Least | 29·43 in. |
| | Mean | 30·040 in. |
| Thermometer: | Greatest height | 70° |
| | Least | 24° |
| | Mean | 42·32° |
| Evaporation | | 2·13 in. |
| Rain | | 1·46 in. |

### *The* Pacific *Ocean, a misnomer.*

"Though this sea has been not improperly dignified with the appellation of Pacific, *with regard to the interval between the tropics,* yet that particular cannot with justice be applied to it, if considered in its whole extent: *tempestuous weather being equally common in the latitudes of* 20° *and* 23° *in the South Sea,* as in the seas of Europe; and in higher latitudes storms are *more* frequent and violent. I am inclined to think the first Spaniards gave it the name of *Pacific,* from being greatly pleased with its smoothness, and the gentleness of the wind in their first voyages, concluding it was so in every part; but the fury of the winter storms, and the roughness of the sea, *which are equal to those in any other parts,* abundantly demonstrate that they formed a judgment too hastily."—*Ulloa,* Book viii. Chap. 3.

### Fogs of the South Pacific.

"The coasts in general of this sea, [the West coast of South America,] from Guayaquil to the southward, are very difficult to be seen, except in summer; being, the whole winter, covered with such thick fogs that no object can be discerned at half a league's distance—and that, often, fifteen or twenty leagues out at sea. *During the night, and till about* 10 *or* 11 *a. m. the fog is only on the land;* [vide Tab. 231, *note;*] *but at that time it moves to seaward, with a prodigious density resembling a wall, totally concealing every object on the other side.*

"The winter fogs seem to be occasioned by the north [or equatorial] winds—the vapours continue till the south [or polar] winds set in, and have blown fresh for two or three days successively. Hence in these seas the *north* is, with the sailors, a *dirty* wind—the south a clear one."—*Idem.* Chap. 4.

| 1826. | | Wind. | By Clock. | | Temp. | | Med. | Evap | Hygr. at 9 a. m. | Rain, &c. |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Max. | Min. | Max. | Min. | | | | |
| 4 mo. April | 1 | SW | 30·44 | 30·17 | 54° | 41° | 47·5 | — | | |
| | 2 | NW | 30·23 | 30·16 | 54 | 50 | 52· | — | | |
| | 3 | NW | 30·29 | 30·24 | 62 | 47 | 54·5 | — | | |
| | 4 | NW | 30·24 | 30·15 | 60 | 48 | 54· | — | | |
| | 5 | NW | 30·20 | 30·15 | 54 | 47 | 50·5 | — | | |
| | 6 | NW | 30·20 | 30·14 | 60 | 48 | 54· | ·47 | | |
| New M. | 7 | NW | 30·25 | 30·17 | 66 | 46 | 56· | — | | |
| | 8 | NW | 30·23 | 29·80 | 69 | 47 | 58· | — | | |
| | 9 | S | 29·98 | 29·75 | 68 | 43 | 55·5 | — | | 3 |
| | 10 | W | 30·04 | 29·75 | 60 | 48 | 54· | — | | — |
| | 11 | W | 29·75 | 29·10 | 62 | 46 | 54· | ·48 | | 45 |
| | 12 | NW | 30·20 | 29·07 | 54 | 40 | 47· | — | | 33 |
| | 13 | NW | 30·36 | 30·15 | 62 | 48 | 55· | — | | |
| | 14 | NW | 30·36 | 30·30 | 63 | 46 | 54·5 | — | | |
| | 15 | NW | 30·33 | 30·18 | 70 | 49 | 59·5 | ·49 | | — |
| | 16 | NW | 30·40 | 30·26 | 64 | 36 | 50· | — | | |
| | 17 | NW | 30·37 | 30·33 | 60 | 28 | 44· | — | | |
| | 18 | SE | 30·33 | 30·15 | 64 | 38 | 51· | — | | |
| | 19 | SE | 30·15 | 29·85 | 64 | 31 | 47·5 | — | | |
| | 20 | E | 29·85 | 29·70 | 65 | 38 | 51·5 | — | | |
| | 21 | SE | 29·70 | 29·64 | 70 | 48 | 59· | — | | |
| | 22 | SE | 29·83 | 29·66 | 70 | 45 | 57·5 | ·95 | | — |
| | 23 | NW | 29·94 | 29·83 | 64 | 30 | 47· | — | | |
| | 24 | NW | 30·07 | 29·94 | 58 | 31 | 44·5 | — | | |
| | 25 | NW | 30·06 | 29·73 | 56 | 38 | 47· | — | | 15 |
| | 26 | NW | 29·73 | 29·47 | 60 | 38 | 49· | — | | 11 |
| | 27 | Var. | 29·95 | 29·46 | 48 | 31 | 39·5 | — | | 5 |
| | 28 | NW | 30·10 | 29·95 | 46 | 31 | 38·5 | — | | |
| | 29 | NW | 30·24 | 30·10 | 53 | 25 | 39· | — | | — |
| | 30 | N | 30·36 | 30·24 | 58 | 30 | 44· | ·82 | | |
| | | | 30·44 | 29·07 | 70 | 25 | 50·50 | 3·21 | | 1·12 |

NOTES.—Fourth Mo. 1. Fine. 2. Cloudy. 3—8. Fine. 9. Fine: a shower of rain about five p. m. 10. Fine. 11. Showery night. 12. Rainy. 13—17. Fine. 18. Fine: a very distinct lunar halo. 19. Ditto. 20—24. Fine. 25. Showers. 26. Fine: some rain in the night. 27. Showers. 28. Fine. 29. Slight showers of hail during the day. 30. Fine.

## RESULTS.

Winds: N, 1; E, 1; SE, 4; S, 1; SW, 1; W, 2; NW, 19; Var. 1.

| | | |
|---|---|---|
| Barometer: | Greatest height | 30·44 in. |
| | Least | 29·07 in. |
| | Mean | 30·032 in. |
| Thermometer: | Greatest height | 70° |
| | Least | 25° |
| | Mean | 50·50° |
| Evaporation | | 3·21 in. |
| Rain | | 1·12 in. |

*Portsmouth, April* 12.—Wind WNW. Blowing very hard; shipping all well.

*Cowes, April* 12.—Wind W.

*Deal, April* 12.—Wind SW to WNW. It has blown very hard all day, and several vessels have let go their second anchors, but appear to ride well. Five p. m.—Blows very hard from WNW.

*Dover, April* 13.—Five p. m. The wind having backed to the west, many of the outward-bound have bore up, and are returning to the Downs.

*Deal, April* 13.—During last night it blew very hard from the northward, when several ships let go their two anchors.

### Shipwreck.—Disgraceful Plundering.

During Tuesday night and the greater part of Wednesday, it blew a heavy gale from the W and NW, which, we are sorry to find, has been attended with some disasters on our coast. The French ship Ocean, from Campeachy to Havre, put into St. Ives in distress, some weeks since; and having undergone a repair, *which cost a thousand pounds*, she lay at anchor in the Bay, waiting for a fair wind. On Wednesday morning she parted from her anchors and drove on shore at Hayle Bar. The pilots and seamen of St. Ives, at the imminent hazard of their lives, rescued the crew, and got on shore a considerable part of her stores; the cargo, which consists chiefly of log-wood, will be saved; but it is feared the vessel cannot be got off. We are sorry to state, that on the first intimation of the disaster, a number of persons from the adjacent villages crowded down with the view of plundering the stores: the greater part of these miscreants were women, who carried off whatever they could lay their hands on, and were very dexterous in concealing bottles of wine and other things, so as to elude a search. Some of the men knocked in the heads of three or four casks of wine, into which they dipped their hats and drank what they took up in them. As the day advanced, the plunderers, male and female, became intoxicated, and a variety of contests, some of them of the most ludicrous description, took place. Every exertion was made by the respectable inhabitants to check this most disgraceful scene of rapine, but the pressure of the multitude and the want of a military guard, rendered their efforts in a great degree unavailing. One fellow, who was making off with some of the plunder, persevered in his endeavours to escape, until a pistol was fired by those who pursued him, when he dropped his prey. We state these facts with shame and sorrow, but truth requires that they should be stated, in order that effective measures may be taken to prevent a repetition of scenes so disgraceful, on the occurrence of any future disaster, [and the *most* effective too—which will undoubtedly be, to give the *Cornish boys* a better breeding.]—*West Briton. P. L. April* 19.

| 1826. | Wind. | By Clock. | | Temp. | | Med. | Evap | Hygr. at 9 a. m. | Rain, &c. |
|---|---|---|---|---|---|---|---|---|---|
| | | Max. | Min. | Max. | Min. | | | | |
| 5 mo. May 1 | NW | 30·36 | 30·17 | 58° | 29° | 43·5 | — | | |
| 2 | NE | 30·17 | 30·11 | 64 | 31 | 47·5 | — | | |
| 3 | NE | 30·17 | 30·14 | 50 | 37 | 43·5 | — | | 13 |
| 4 | NW | 30·14 | 30·11 | 50 | 38 | 44· | — | | — |
| 5 | NE | 30·17 | 30·10 | 55 | 38 | 46·5 | — | | |
| 6 | NE | 30·12 | 30·09 | 50 | 36 | 43· | — | | 16 |
| New. M. 7 | NE | 30·13 | 30·12 | 54 | 38 | 46· | — | | |
| 8 | NE | 30·13 | 30·12 | 62 | 28 | 45· | — | | |
| 9 | NE | 30·12 | 30·10 | 66 | 36 | 51· | — | | |
| 10 | NW | 30·16 | 30·10 | 65 | 36 | 50·5 | — | | |
| 11 | SE | 30·34 | 30·16 | 68 | 37 | 52·5 | ·97 | | |
| 12 | NE | 30·37 | 30·34 | 56 | 37 | 46·5 | — | | |
| 13 | NE | 30·35 | 30·19 | 62 | 29 | 45·5 | — | | |
| 14 | NE | 30·20 | 30·13 | 64 | 29 | 46·5 | — | | |
| 15 | NE | 30·21 | 30·18 | 61 | 32 | 46·5 | — | | |
| 16 | SE | 30·20 | 30·15 | 70 | 45 | 57·5 | — | | |
| 17 | NW | 30·18 | 30·15 | 74 | 45 | 59·5 | — | | |
| 18 | SE | 30·15 | 29·95 | 76 | 45 | 60·5 | — | | 4 |
| 19 | SW | 29·95 | 29·76 | 75 | 50 | 62·5 | — | | 10 |
| 20 | E | 30·10 | 29·81 | 68 | 37 | 52·5 | ·96 | | |
| 21 | NW | 30·14 | 30·10 | 72 | 44 | 58· | — | | |
| 22 | NW | 30·12 | 30·03 | 75 | 42 | 58·5 | — | | |
| 23 | N | 30·03 | 29·89 | 70 | 48 | 59· | — | | |
| 24 | NW | 29·88 | 29·75 | 69 | 50 | 59·5 | — | | 68 |
| 25 | NE | 29·75 | 29·68 | 70 | 52 | 61· | — | | 16 |
| 26 | SE | 29·87 | 29·73 | 68 | 48 | 58· | — | | 3 |
| 27 | E | 29·96 | 29·87 | 71 | 45 | 58· | — | | |
| 28 | N | 29·95 | 29·80 | 65 | 51 | 58· | — | | — |
| 29 | NE | 29·96 | 29·81 | 55 | 50 | 52·5 | — | | 1·34 |
| 30 | NW | 30·00 | 29·95 | 65 | 55 | 60· | — | | 7 |
| 31 | E | 30·00 | 29·93 | 60 | 51 | 55·5 | ·92 | | 6 |
| | | 30·37 | 29·68 | 76 | 28 | 52·53 | 2·85 | | 2·77 |

NOTES.—Fifth Mo.—1, 2. Fine. 3. Showery. 4. Cloudy. 5. Fine. 6. Hail showers during the day. 7, 8. Fine. 9. Fine: very distinct solar halo about one p. m. of unusually large diameter. 10. Cloudy. 11—23. Fine. 24—26. Showery. 27, 28. Fine. 29. Very rainy day. 30. Drizzly. 31. Cloudy.

## RESULTS.

Winds: N, 2; NE, 13; E, 3; SE, 4; SW, 1; NW, 8.

| | | |
|---|---|---|
| Barometer: | Greatest height | 30·37 in. |
| | Least | 29·68 in. |
| | Mean | 30·063 in. |
| Thermometer: | Greatest height | 76° |
| | Least | 28° |
| | Mean | 52·53° |
| Evaporation | | 2·85 in. |
| Rain | | 2·77 in. |

*Tottenham,* Fifth month, 9th, evening. *The barometer during the last sixty hours has been nearly stationary.* For about three hours this forenooon we had a *solar halo,* very brilliant in the parts above and below the sun. In the higher arc, especially towards the N, there was a good exhibition of the prismatic colours. The modification present was *Cirrus,* which passed to southward: the day was clear and warm, with a fine northerly breeze.

10th, *noon.* The barometer continues yet almost stationary: the clock at 30·13 in. the portable at 30·092 in. uncorrected, at temp. 67°. The thermometer without, which has been at 68°, is now 64°. There are some indications of the approach of rain, by the form and character of heavy *Cumuli;* but at present the clouds have little motion. [It will be seen by the Table, that the stationary condition of the barometer at this height, was a truer indication of the weather than the clouds, &c. which appeared at the time.]

The Weather.—May has come in very delightfully: but for two or three days in the end of April we had very severe frost in the mornings. Friday se'nnight, in particular, was a most bitter day; the hills were all white with snow, the pools completely frozen over, and in the higher parts of the county, the ice on the shallow *dubs* was so strong, that it bore the weight of a horse. Even in town, the windows were as nicely embroidered as in winter; and we were informed, by a traveller who crossed Shapfell on Friday, that the snow, for a considerable distance around, lay nearly half a foot thick.—*Dumfries Courier. P. L. May* 10.

Snow Aloft.—About half-past six o'clock yesterday evening, Mr. Green, the aëronaut, and two companions, ascended from the Eagle Tavern, in the City-road, and after gaining an altitude of a mile and a quarter, *and meeting with a severe snow storm,* they descended in safety about eight o'clock, in a field at Foot's-cray.—*P. L. May* 17.

A Sussex correspondent says:—The aspect of the country has been greatly improved by the late gentle showers. The ground was previously exceedingly dry, and the grass had attained but little growth. The cold nights and bleak winds have materially injured the early fruits, but hope is not yet lost of an average crop of apples. The potatoes, which in many places had suffered severely, are beginning to thrive in a promising manner, and wheat looks well. We have no fears but that the clouds having "poured blessings down," the old distich will be verified:

> "A dry May and a drippy June,
> Will put all Nature into tune."—*P. L. May* 30.

# TABLE CCXLI.

| 1826. | | Wind. | By Clock. | | Temp. | | Med. | Evap | Hygr. at 9 a. m. | Rain, &c. |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Max. | Min. | Max. | Min. | | | | |
| 6 mo. June | 1 | NE | 29·95 | 29·90 | 64° | 51° | 57·5 | — | | 60 |
| | 2 | NE | 30·16 | 29·95 | 62 | 47 | 54·5 | — | | 1 |
| | 3 | NW | 30·27 | 30·16 | 70 | 42 | 56· | — | | |
| | 4 | NW | 30·37 | 30·27 | 70 | 52 | 61· | — | | |
| New M. | 5 | NW | 30·40 | 30·37 | 72 | 45 | 58·5 | — | | |
| | 6 | NW | 30·38 | 30·27 | 76 | 54 | 65· | — | | |
| | 7 | N | 30·34 | 30·30 | 68 | 52 | 60· | — | | |
| | 8 | NE | 30·30 | 30·08 | 74 | 50 | 62· | — | | |
| | 9 | NE | 30·08 | 30·01 | 76 | 50 | 63· | ·95 | | |
| | 10 | NE | 30·15 | 30·02 | 80 | 52 | 66· | — | | |
| | 11 | NW | 30·32 | 30·14 | 81 | 50 | 65·5 | — | | |
| | 12 | NW | 30·34 | 30·30 | 88 | 52 | 70· | — | | |
| | 13 | SW | 30·33 | 30·30 | 88 | 53 | 70·5 | — | | |
| | 14 | NW | 30·30 | 30·20 | 82 | 56 | 69· | — | | |
| | 15 | NW | 30·37 | 30·10 | 83 | 49 | 66· | — | | |
| | 16 | NW | 30·50 | 30·37 | 75 | 45 | 60· | ·90 | | |
| | 17 | NW | 30·46 | 30·36 | 75 | 55 | 65· | — | | |
| | 18 | NW | 30·48 | 30·35 | 83 | 48 | 65·5 | — | | |
| | 19 | SE | 30·54 | 30·49 | 76 | 45 | 60·5 | — | | |
| | 20 | NE | 30·54 | 30·50 | 75 | 43 | 59· | — | | |
| | 21 | NE | 30·50 | 30·46 | 68 | 53 | 60·5 | — | | |
| | 22 | NE | 30·47 | 30·40 | 75 | 48 | 61·5 | ·94 | | |
| | 23 | NE | 30·50 | 30·45 | 80 | 45 | 62·5 | — | | |
| | 24 | NE | 30·43 | 30·40 | 84 | 45 | 64·5 | — | | |
| | 25 | E | 30·40 | 30·26 | 85 | 47 | 66· | — | | |
| | 26 | E | 30·26 | 30·07 | 88 | 57 | 72·5 | — | | |
| | 27 | SE | 30·10 | 30·02 | 92 | 62 | 77· | ·95 | | 52 |
| | 28 | SE | 30·24 | 30·10 | 91 | 58 | 74·5 | — | | |
| | 29 | W | 30·26 | 30·22 | 82 | 58 | 70· | — | | |
| | 30 | S | 30·25 | 30·21 | 87 | 62 | 74·5 | ·48 | | 5 |
| | | | 30·54 | 29·90 | 92 | 43 | 64·60 | 4·22 | | 1·18 |

Notes.—Sixth Mo. 1. Night rainy: showers during the day. 2. Cloudy. 3—26. Fine. 27. Sultry: a thunder-storm from eleven to one, with heavy rain. 28. Fine: sultry. 29, 30. Fine.

The storm of the 27th was attended, at St. Alban's, by a shower of hail, (described as consisting of pieces of ice three inches in circumference,) which broke the windows of many houses, beat down the corn, and damaged the gardens. On the following day another electrical hail-storm, very destructive, passed over the northern suburb of the metropolis, and the towns of Windsor and Eton. The papers give accounts of losses by the florists and nurserymen, of more than a hundred thousand squares of glass: in Eton a malt-

house was struck, the building was rent, and the timbers set on fire. Two or three trees in the great park were stripped of their foliage, probably by being completely disbarked.

## RESULTS.

Winds: N, 1; NE, 10; E, 2; SE, 3; S, 1; SW, 1; W, 1; NW, 11.

| | | |
|---|---|---|
| Barometer: | Greatest height | 30·54 in. |
| | Least | 29·90 in. |
| | Mean | 30·283 in. |
| Thermometer: | Greatest height | 92° |
| | Least | 43° |
| | Mean | 64·60° |
| Evaporation | | 4·22 in. |
| Rain | | 1·18 in. |

During the hot weather two persons have lost their lives in the hay fields near the metropolis, by exposing the head to the sun. The best mode of preserving the head from the direct heat of the sun is by occasionally sprinkling water on the hat or cap, so as to keep up a constant evaporation. [I should advise rather a double cotton night cap put on loosely.]—*P. L. June* 26.

*Liverpool*—We have not had any rain since the early part of March: the drought has caused great consternation for many miles round this town. The want of water for the cattle and domestic purposes is most severely felt. The fields, which used at this season of the year to wear their luxuriant coat of green, have at present the colour of the high roads. A similar complaint, we learn, prevails at Leicester, where no rain has fallen since Easter.—*P. L. June* 28.

It is supposed there has been quite calm weather at sea, as few arrivals take place either from the westward or eastward. Tuesday the only arrivals from foreign ports into the United Kingdom, were a merchant vessel from Newfoundland, and one from Hamburgh. There were no foreign mails: the Lisbon mail arrived the day before, and was landed at Cork.—*June* 29.

A Wood on Fire.—On Friday morning last, some of the workmen engaged at Mr. Panton's, on the Shawpark estate, near Alloa, discovered a great quantity of smoke arising from a young plantation, and found the foliage and young trees on fire. We understand that the strenuous exertions of upwards of a dozen men were required the whole day to confine the ravages of the destroying element, which was not fairly got under till nearly two acres of the plantation were destroyed.

The heat has been excessive for some time. The thermometer has frequently been at 84° in the shade, and at 125° in the open air. The consequences are alarming. The mosses and heath-clad muirs to the SW have been on fire for a week past, and are still burning, and no human power seems able to arrest its progress. It has been computed that upwards of two thousand acres have been burnt, including some corn fields and plantations.—*Glasgow Courier.*

*Edinburgh.*—The drought with which we have been visited for the last two months still continues. In the early part of last week we had some cool breezes from the east, but on Saturday the wind veered to the west, in which quarter it continues. The heat on Saturday and yesterday (Sunday) was quite oppressive, the thermometer in the shade on both days being as high as 82°. Most of the rivulets are dried up, and the rivers wanting so many of their tributary streams, the grain mills and other public works on their banks, are either stopped, or working only a few hours a day. The wells and ponds about country houses are, in many places, dried up, and the farmers are under the necessity of either carting water from a distance, or driving their flocks and herds to the distant streams.

*North Devon.*—The hay harvest is arrived, and our neighbours, whose lands lie in moist situations have, in most instances, saved their crops, the best of which are very deficient, and owing to the long drought, we lament to say, the farmers have but very little grass, and the cattle are in a very declining state. The spring corn is suffering much for want of rain, and some of our farmers have turned their stock in upon it. The potatoe crop is also likely to suffer severely.—Papers.

| 1826. | | Wind. | By Clock. | | Temp. | | Med. | Evap | Hygr. at 9 a. m. | Rain, &c. |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Max. | Min. | Max. | Min. | | | | |
| 7 mo. July | 1 | NW | 30·32 | 30·20 | 81° | 56° | 68·5 | — | | |
| | 2 | NW | 30·33 | 30·29 | 88 | 52 | 70· | — | | |
| | 3 | E | 30·30 | 30·13 | 89 | 52 | 70·5 | — | | |
| | 4 | E | 30·13 | 29·92 | 86 | 60 | 73· | — | | |
| New M. | 5 | W | 30·00 | 29·92 | 87 | 58 | 72·5 | ·98 | | |
| | 6 | W | 30·00 | 29·88 | 87 | 66 | 76·5 | — | | |
| | 7 | SW | 29·88 | 29·75 | 85 | 62 | 73·5 | — | | |
| | 8 | SW | 29·74 | 29·72 | 83 | 64 | 73·5 | — | | 11 |
| | 9 | SW | 29·84 | 29·71 | 83 | 54 | 68·5 | — | | |
| | 10 | SW | 29·92 | 29·85 | 80 | 56 | 68· | ·90 | | — |
| | 11 | W | 30·00 | 29·88 | 78 | 62 | 70· | — | | |
| | 12 | SW | 29·88 | 29·72 | 78 | 64 | 71· | — | | |
| | 13 | SW | 29·81 | 29·78 | 75 | 55 | 65· | — | | 10 |
| | 14 | W | 29·92 | 29·80 | 78 | 60 | 69· | — | | |
| | 15 | SW | 29·94 | 29·90 | 75 | 54 | 64·5 | — | | 4 |
| | 16 | SW | 30·04 | 29·80 | 73 | 49 | 61· | ·85 | | 1 |
| | 17 | NW | 30·05 | 30·03 | 79 | 51 | 65· | — | | |
| | 18 | NW | 30·05 | 29·96 | 78 | 58 | 68· | — | | |
| | 19 | NW | 30·11 | 30·00 | 74 | 54 | 64· | — | | |
| | 20 | W | 30·08 | 29·61 | 72 | 59 | 65·5 | — | | 14 |
| | 21 | SW | 29·80 | 29·60 | 73 | 49 | 61· | ·76 | | — |
| | 22 | NE | 30·02 | 29·80 | 74 | 50 | 62· | — | | 1·83 |
| | 23 | NE | 30·11 | 30·02 | 76 | 54 | 60·5 | — | | 36 |
| | 24 | NE | 30·20 | 30·12 | 70 | 55 | 62·5 | — | | |
| | 25 | NE | 30·32 | 30·20 | 78 | 47 | 62·5 | — | | |
| | 26 | NE | 30·40 | 30·32 | 77 | 44 | 60·5 | — | | |
| | 27 | NE | 30·39 | 30·30 | 74 | 50 | 62· | — | | |
| | 28 | NE | 30·30 | 30·17 | 78 | 46 | 62· | — | | |
| | 29 | SW | 30·17 | 30·10 | 79 | 49 | 64· | ·95 | | |
| | 30 | E | 30·12 | 30·00 | 85 | 52 | 68·5 | — | | |
| | 31 | S | 30·15 | 29·99 | 89 | 59 | 74· | ·48 | | 2 |
| | | | 30·40 | 29·71 | 89 | 44 | 67· | 4·92 | | 2·61 |

Notes.—Seventh Mo. 1—7. Fine. 8. Fine day: evening showery. 9—11. Fine. 12—14. Cloudy. 15. Fine. 16. Morning cloudy: afternoon fine. 17—19. Fine. 20, 21. Showery. 22. Very rainy night. 23. Rainy day. 24—29. Fine. 30. Sultry. 31. A thunder-storm at ten a. m.

## RESULTS.

Winds: NE, 7; E. 3; S, 1; SW, 10; W, 5; NW, 5.

| | | |
|---|---|---|
| Barometer: | Greatest height | 30·40 in. |
| | Least | 29·71 in. |
| | Mean | 30·010 in. |
| Thermometer: | Greatest height | 89° |
| | Least | 44° |
| | Mean | 67° |
| Evaporation | | 4·92 in. |
| Rain | | 2·61 in. |

*Aberdeen, July* 1.—The weather continues dry and sultry to a degree very unusual in this part of the country, and most unpropitious to the progress of the growing crops. The face of the country is parched; and corns which till now had preserved a tolerably healthy appearance, are becoming brown, and shooting into the ear, although but a few inches above ground. The heat for the last few days has been most oppressive, the thermometer in the shade ranging from 75° to 82°. Many wells, ponds, and some of the smaller streams of water are entirely dried up; and cattle are suffering no less from the drought than from the scarcity of pasture. In the upper parts of the county, the effects of the heat have been of a most extraordinary and alarming description. Several hills in the neighbourhood have also caught fire; among which [Lochnagar] Benaboard, Benaven, and the Hill of Glentanner are mentioned, and have been burning for some days. Every exertion is making to prevent the fire reaching the woods; which, we trust, will prove successful.

*Pembroke, July* 1.—Pembrokeshire and the adjoining counties have not witnessed such an extent of dry weather during the recollection of the oldest inhabitants. Since the 4th of March last but two showers have fallen, neither of which lasted more than three hours. The thermometer during the last week has been ranging from 78° to 83° in the shade. This excessive heat and drought has completely suspended vegetation; the grass lands are burnt brown, the hay on many farms will not pay for mowing, and the corn has but a middling appearance.

### Thunder Storms—Moors on Fire—The Crops.

On Monday morning, about ten o'clock, a storm of lightning and thunder passed over this town (Chelmsford) which threatened to arrest the progress of the harvest for a time, but most unexpectedly it left us after a short continuance of rain. The lightning was vivid, and the thunder was loud and awful. The storm rose in the NW, and passed to the SE. In Danbury Park, the electric fluid struck a large oak tree standing by the side of the great road. The bark was stripped off, and the tree shivered in a surprising manner; an elm tree near it was also much injured. At present we have heard of no other damage being done, but from observation, such appeared to be the strength of the lightning, we have reason to apprehend that what we have here stated is not the full extent of the mischief done.—*Essex Herald. P. L. July* 2.

*Glasgow.*—The warmth during the last seven days has been higher than was ever previously known in this part of the country. The thermometer in Nelson-street, at six o'clock in the morning, has on an average indicated 71°; and near

Rotherglen, at three o'clock, it stood as follows—Monday 82°, Tuesday 84°, Wednesday 85½°, Thursday 82°. The heat has had the effect of increasing the number of flies, and giving continual vigour to the gnats, which are beginning to sound in the ear of an experienced traveller, as if he were in Rome. In consequence of the decreased quantity of water in the Clyde, owing to the heat and long drought, the Chalybeate Springs above Rotherglen Bridge, have so much affected it, that dyers, meaning to dye Turkey red, have been surprised at finding their process end in purple.—*P. L. July* 6.

*Croft of Glenmuir, July* 3.—We had two tremendous thunder-storms last week, accompanied by falls of rain which have refreshed the crops a great deal. There is a sheet of fire blazing from Cairngorum to Clach-na-ben: almost the whole of our hills are burned round and round; however, there is no material damage done to the forests, except a few scattered trees in Glentanner. The extent of surface burned between the Lochnagar and the Glen of Dye, cannot be, at the least calculation, less than between one hundred and two hundred square miles. It is a singular fact, that all the trouts and eels in the hill-burns have died, and the people are gathering bags full of them.

*Brechin.*—A destructive fire has broken out on the hills in the parish of Strachan, which has assumed an alarming aspect. It is supposed to have originated about twelve days ago, on the east side of Mount Battock, one of the Grampians. The surface of the ground is composed of moss, covered with furze, and this being completely parched by the recent drought, the fire spread rapidly and widely to the adjoining estates, belonging to the Earl of Aboyne and Sir Jas. Carnegie. On Sunday last, it had extended to a depth of from five to seven feet, over a surface of nearly seven miles in length and five in breadth, comprehending Mount Battock, Camelhill, the head of the water of Ann, Petershall, and the valley, down to the stone of Clochnabear, which was that day enveloped in flame. The excessive heat from such a mass of burning matter, by preventing all approach, has rendered it impossible to adopt any efficient means for extinguishing it, and it is of course increasing every hour. Serious apprehensions are entertained for the extensive forest of Glentanner, towards which the flames are rapidly approaching.—*The Scotsman.*

*Chelmsford.*—It is now nearly two months since we have had any rain in this part of the county; the latter sown crops are therefore extremely short in some places, and the corn is seen upon a stalk just peeping out of the ground.

*Leicester.*—The weather here is excessively hot and dry. The fields are all parched up. Hay is from 8s. to 10s. per cwt. and the butter market opened on Saturday last at 2s. per lb.

*Bradford.*—The conflagrations on the Moors still continue. Large tracts of sheep-walks have been destroyed, and the hopes of those sportsmen who anticipated making the West Riding Moors their scene of action. The fires have spread over not only a large extent of surface, but have burnt to a great depth, consuming the moss and the peat underneath. In some places, where they meet a substratum, the fires run to a considerable distance, and break out unexpectedly in other spots. The flames and smoke together present a most awful appearance, especially during the night, when seen from the higher ground. Hawkesworth Moor is entirely destroyed. On Ilkley Moor five hundred acres are burnt. There is no hope of any part of Bingley Moor being saved. Burley Moor is on fire, and is partly consumed. Thornton Moor is entirely destroyed, with all the young plantations, which cost two thousand pounds and upwards the planting. Oaksworth Moor is entirely burnt. Ovendon Moor,

Holme Moss, Burnsall Fell, Hebden and Grassington Moors, are on fire; and unless heavy and incessant rain falls, every one of these must be entirely consumed. We do not believe that these moors have been purposely set on fire; still less, as the Scotch papers would make us believe, that the reflection of the Scotch pebbles and Cairngorums upon the mountains have caused the conflagration! We have no doubt but lightning was the original cause of the evil: thunder-storms having been universal all over the island.

*Manchester.*—Never, perhaps, was rain more universally welcomed by all ranks of people than that which fell here on Tuesday evening. It was received in the lap of earth as the richest gift of Heaven; and the evils which the people, breathing with difficulty the almost tropical atmosphere, were prognosticating in the shape of pestilence and famine, seemed to vanish at once as the lungs played more freely, feeling the immediate influence of the cooled air. On this change of the weather most heartily do we congratulate our readers.—*Manchester Paper.*

The effects of the drought are beginning to be very alarming, and the markets are every where showing a tendency to rise. As very different accounts have been given of the heat at Edinburgh, we may mention, that the highest temperature observed here was 85°. We had a pretty heavy shower about twelve o'clock yesternight. It is a fact perhaps unprecedented, that at present Loch Tay discharges no water by the bed of the river Tay. It is not remembered by the oldest inhabitant in that quarter, that they have at any period seen a less body of water than three feet deep issuing from the Loch by the Tay, in any season; thus the evaporation from the Loch has exceeded in this, any known season, by about 180,124,260 cubic feet.—*Scotsman.*

Great distress prevails on this and the opposite shore of Cheshire, for want of water for domestic purposes; and were it not for the hitherto abundant supply which Liverpool receives from the Corporation and Bootle Waterworks, we should be in a miserable condition. Prayers were offered up in our churches, on the last and preceding Sunday, for rain. It is somewhat remarkable, that the wheat looks well, notwithstanding the long dry season; but other crops, it is to be feared, will be very deficient.—*Liverpool Courier. P. L. July* 8.

*Liverpool.*—Several Showers of rain have fallen within the last few days, which have greatly improved the face of the country. It has not yet, however, fallen in sufficient quantities to warrant very sanguine hopes of any great improvement in the state of the crops of grain, at least in barley and oats. The oppressive heat of the atmosphere has abated, the thermometer ranging yesterday at 72°.—*P. L. July* 15.

The excessive drought which has prevailed so long, is, we believe, without a parallel since July 1785. We have already adverted to the effects of the drought; but we cannot give a more striking proof of the distress to which the farmers are reduced, than by stating that in this county they are *lopping the trees* to supply their cattle, &c. with food. The same expedient was resorted to in the above year. In many cases water cannot be procured without driving the cattle to a considerable distance.—*Worcester Journal.*

Notwithstanding the great drought, the wheat crops have suffered but little; and we understand this grain at present promises to furnish a luxuriant harvest. The oats and barley have been seriously injured, particularly the former, which will be a worse crop than has been known for many years.—*Plymouth Paper.*

The hay harvest has been extremely deficient, not exceeding half a crop, and in many places falling far short of that quantity. Wheat is looking very promising. Oats and the other spring corn are very deficient. Potatoes are

much in want of rain, though the quality is better than usual; and if more rain should come, the autumn crops will still become unproductive. The fields, refreshed as they have been, are beginning once more to resume the verdant hue of healthful vegetation.—*Leeds Mercury.*

Since our last we have had a succession of fine showers, generally accompanied by thunder, which have considerably cooled the air, and have produced very beneficial effects upon the pastures, turnips, &c. The spring crops have also manifested considerable improvement, as will the grass yet uncut; and the aftergrass may be expected to rise abundantly. The wheats generally look pretty well, though the crops do not appear to be heavy.—*Hull Paper.*

Since Wednesday evening we have had copious rains, with every appearance of their continuance. The potatoe crops will be saved, and the wheat is so well filled, that even should it be laid by a heavy rain, which as yet it has not been, still it would sustain no material injury.—*Glasgow Courier.*

A marked change has taken place in the weather. The intense heat has been greatly abated, copious and refreshing showers of rain have fallen; the various crops have assumed a marked appearance of improvement.—*Staffordshire Advertiser.*

Since our last we have had many fine refreshing showers, the effects of which are clearly perceivable in the verdure of the gardens, &c.—*Plymouth Journal.*

*Cupar Angus.*—Some of the fields of corn in this neighbourhood became so parched by the drought that they have been ploughed up and sown with turnip-seed. Some other fields have been sown with barley, in the expectation of a good crop of straw, if the season should prove adverse to bringing the ear to maturity.—*Dundee Advertiser.*

The crops of oats and barley are proceeding rapidly to a premature ripening; and several fields of the latter are nearly ready for the sickle.—*Perth Paper.*

In the account we published last year of the several harvests in the neighbourhood of Aylesbury, since 1784, there were only five which were stated to have begun in the month of July. The forwardest was that of 1822; the reaping having commenced July the 18th. This harvest, therefore, is likely to prove one of the earliest in the memory of man.—*Bucks Chronicle.*

The late rains have already clothed with verdure the pastures and mown meadows, which previously appeared parched, and neither afforded nor promised any future sustenance to the cattle. The potatoe crops, and those of the late sown grain, have also benefitted greatly. The early wheat fields never presented a finer or more productive aspect. Several acres of wheat have been reaped in different parts of Yorkshire, and promise an excellent crop. Some oats have also been stooked in this neighbourhood. That crop will also, we believe, yield a fair produce of grain, although the straw will be short. Hay is a scanty crop, and will probably be dear, as well as other species of fodder, during the next winter.—*Leeds Intelligencer.*

*Chelmsford.*—The continuance of the dry parching weather has produced so premature a ripening of the grain generally, and of the wheats in particular, as to call forth the sickle at an early part of the month. Much of the corn is riper in the ear than a common observer may consider, and it is incumbent on the farmer not to be parsimonious in engaging assistants; for, should adverse weather, or brisk winds set in, no inconsiderable portion of the crop will be shaken out, the kernel being somewhat withered, and the chaff not so close as in most seasons.

*Canterbury.*—The wheat harvest has commenced in the neighbourhood of this city. The crop will be large, and the quality excellent. A fine sample of new barley was exhibited at our market on Saturday last. There is every prospect of an early and abundant harvest.—*P. L. July* 22.

*Phenomena of the Polar Circle in our Summer.*

*July* 29, 1826.—This was a very cold, comfortless day, the Temp. between 38° and 42°. [Lat. 69°, 38′.] We had observed, [on the 18th,] for the preceding fortnight, that the mosquitoes assailed us as soon as the Temp. rose to 45°, and that they retired quickly on its descending below that height. [The effects of the Temperature here described, on both subjects, are precisely what they are with us.]

*July* 19.—At six a. m. after having gone five miles and a half, we were stopped by the ice, which adhered to the reef, and was unbroken to sea-ward. *Imagining we saw water at some distance beyond this barrier,* we were induced to drag the boats across the reef and launch them into the channel in the hope of reaching it; this proved to be a bay, at which we arrived in a short time. *It was then discovered that a fog hanging over the ice had been mistaken for water.* As an instance of the illusion occasioned by the fog, I may mention that our hunters sallied forth on more than one occasion, to fire at what they supposed to be *deer,* but which to their surprise took wing, and proved to be cranes and geese!—*Franklin's Second Expedition.*

While detained by the wind at Clapperton Island, in lat. 69°, 41′, Capt. Franklin remarks: "In the evening the ice made a noise so like the regular firing of half-minute guns, as to excite at first an idea that we heard the guns of a ship." But having passed Cape Lyon, fourteen miles eastward along the coast, "soon after rounding it (he says) we came to a projecting point, consisting of cliffs of limestone, in which was a remarkable cave, opening in the sea by an archway fifty feet high and twenty wide: the walls of the cavern were two hundred feet high, and a large circular aperture in the roof gave free admission to the daylight."

Now, from the description of a similar cavern, called the *Spout,* on the leeward shore of Barbadoes, which I find in *Chalkley's Journal,* p. 94, edit. 1791, and of the effects of the sea upon it, I have no doubt that either this, or another similar cavern about Cape Lyon, receiving the swell of the sea, (which it appears was then acted on by a strong wind,) and sending up condensed air through the aperture in successive discharges, at nearly equal intervals, might cause sounds, which being conducted along between the shore and the ice, might easily appear to come from the latter. *Thunder-storms,* I find by this narrative, occur within the Polar circle, and this even in the winter months.—L. H.

| 1826. | | Wind. | By Clock. | | Temp. | | Med. | Evap | Hygr. at 9 a. m. | Rain, &c. |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Max. | Min. | Max. | Min. | | | | |
| 8 mo. Aug. | 1 | NE | 30·15 | 30·05 | 85° | 62° | 73·5 | — | | — |
| | 2 | NE | 30·05 | 29·94 | 81 | 61 | 71· | — | | — |
| New M. | 3 | NW | 30·02 | 29·96 | 81 | 60 | 70·5 | — | | 92 |
| | 4 | NE | 30·10 | 30·01 | 77 | 59 | 68· | — | | 32 |
| | 5 | NE | 30·14 | 30·05 | 74 | 50 | 62· | — | | |
| | 6 | NW | 30·24 | 30·14 | 77 | 56 | 66·5 | — | | |
| | 7 | NW | 30·22 | 30·16 | 78 | 59 | 68·5 | — | | |
| | 8 | SW | 30·16 | 30·04 | 85 | 55 | 70· | — | | |
| | 9 | NW | 30·04 | 30·00 | 81 | 59 | 70· | — | | — |
| | 10 | NE | 30·01 | 29·93 | 80 | 55 | 67·5 | — | | — |
| | 11 | SW | 30·10 | 29·90 | 66 | 48 | 57· | — | | 35 |
| | 12 | NW | 30·30 | 30·10 | 71 | 46 | 58·5 | — | | |
| | 13 | SE | 30·30 | 30·00 | 78 | 46 | 62· | 1·39 | | |
| | 14 | SW | 30·16 | 29·97 | 80 | 50 | 65· | — | | |
| | 15 | SW | 30·11 | 30·00 | 75 | 52 | 63·5 | — | | — |
| | 16 | NW | 30·15 | 29·99 | 73 | 51 | 62· | — | | |
| | 17 | NW | 30·38 | 30·20 | 74 | 60 | 67· | — | | |
| | 18 | SW | 30·40 | 30·35 | 81 | 52 | 66·5 | — | | |
| | 19 | E | 30·35 | 30·10 | 84 | 52 | 67· | ·94 | | |
| | 20 | E | 30·10 | 29·99 | 88 | 57 | 72·5 | — | | |
| | 21 | NE | 30·00 | 29·95 | 77 | 57 | 67· | — | | |
| | 22 | SE | 29·96 | 29·83 | 79 | 57 | 68· | — | | |
| | 23 | SW | 29·83 | 29·64 | 76 | 58 | 67· | — | | — |
| | 24 | W | 29·82 | 29·75 | 76 | 61 | 68·5 | — | | |
| | 25 | SW | 29·94 | 29·64 | 80 | 60 | 70· | — | | 20 |
| | 26 | SW | 29·98 | 29·82 | 74 | 54 | 64· | ·92 | | |
| | 27 | W | 30·10 | 29·99 | 73 | 50 | 61·5 | — | | |
| | 28 | SE | 30·08 | 29·95 | 78 | 64 | 71· | — | | |
| | 29 | NW | 29·95 | 29·75 | 80 | 58 | 69· | — | | |
| | 30 | SE | 29·86 | 29·70 | 78 | 56 | 67· | — | | |
| | 31 | SW | 29·87 | 29·84 | 75 | 57 | 66· | ·89 | | 8 |
| | | | 30·40 | 29·64 | 88 | 46 | 66·72 | 4·14 | | 1·87 |

Notes.—Eighth Mo. 1. Sultry. 2. Fine. 3. Overcast: a heavy storm about midnight. 4. Rainy night. 5—8. Fine. 9. Fine day: some rain at night. 10. Fine. 11. Rainy. 12—19. Fine. 20. Sultry. 21, 22. Fine. 23. Cloudy. 24. Fine. 25. Fine day: the sky became suddenly overcast about seven p. m. and a violent storm followed, accompanied with incessant lightning for two or three hours. 26—31. Fine.

## RESULTS.

Winds: NE, 6; E, 2; SE, 4; SW, 9; W, 2; NW, 8.

| | | |
|---|---|---|
| Barometer: | Greatest height | 30·40 in. |
| | Least | 29·64 in. |
| | Mean | 30·027 in. |
| Thermometer: | Greatest height | 88° |
| | Least | 46° |
| | Mean | 66·72° |
| Evaporation | | 4·14 in. |
| Rain | | 1·87 in. |

Last night, or rather early this morning, a tremendous storm of thunder, lightning, and rain passed over the metropolis; the lightning was of the blue cast, and the rain descended in torrents.—*P. L. Aug.* 4.

The thunder-storm, which visited the city on Thursday night last, [3d] it appears was far from partial. At Hitchin, Herts, it raged with alarming fury. The lightning struck two cottages in the neighbourhood, which were burnt to the ground; happily no lives were lost.—*P. L. Aug.* 9.

Severe tempestuous weather was experienced in this city, (Worcester,) and around it, on the evening of Monday and Tuesday last; [1st and 2d;] the lightning was appallingly vivid and frequent, and the thunder rolled in crashing peals. About six o'clock on Monday evening, at which time the tempest appears to have been at its climax, the team of Mr. Charles Haywood, of Holt, was returning home with a load of barley, under the care of a man and two boys. One of the latter was leading the fore horse, and the man was at the thiller, when instantaneously the horses and their attendants were struck by the lightning to the ground with great violence, and the leader, a valuable mare, killed on the spot; the other two horses were likewise much damaged. The man leading the thiller was also much hurt, the electric fluid being attracted by a scythe which he was carrying on his shoulder, and a large poplar tree directly opposite to him was shivered to atoms—but the boy who was at the head of the dead-stricken mare escaped without the slightest injury; neither was the other [boy] at all hurt. According to the description of one of the lads, the lightning played around them for some seconds before they were struck down, and it appeared to him as if he was standing on fire. The mare which was killed was skinned the next morning, and showed not the least mark of laceration, except from the fall on the hard road. *Same evening*, a new brick-built cottage, belonging to Mr. Chillingworth, a short distance from where the foregoing took place, was struck by the lightning, and the chimney thrown down.—*Worcester Herald. P. L. Aug.* 9.

[Was not this accident to the team the result of a *returning stroke?*—See Lauder's case in *Philo. Trans.*]

*Burning Moors.*—On Saturday afternoon it was discovered that the extensive moors in the vicinity of Sheffield had by some means taken fire. Such was the progress made by the fire in a few hours, that it was supposed upwards of six acres of the moors were burning on that evening. During the whole of that

night and Sunday, the conflagration continued to spread, and on Monday morning it began to assume an alarming aspect. On that day a ditch was cut, with a view to stop its progress, and for a short time this expedient seemed to answer the purpose. The fire, however, having reached one side of the ditch, it made a partial stand. The heat was now become intense, and every thing consumable was literally burnt to ashes light as air. This was succeeded by a brisk breeze, which blew the burning dust across the barrier, and set fire to the adjacent district. From the dryness of the ground it was immediately in a state of ignition, and it was calculated by a gentleman residing in the neighbourhood, that on Monday night there must have been one thousand five hundred acres of land burnt and burning! That evening the scene was awfully grand—even terrific in its appearance. The thunder was heard in loud and continued peals, the lightning was seen in vivid and repeated flashes, darting across the firmament; the rain descended in torrents, and the ground for miles was in flame! The principal seat of the conflagration is in the immediate vicinity of Broomhead Hall, the seat of Col. Leader, and fears have been entertained that it might possibly reach the plantation in front of that gentleman's mansion. This, however, is separated from the burning ground by a road thirty feet wide, and every thing calculated to feed the devouring element has been cut away for the same distance from the fire. The inhabitants of the houses in the neighbourhood are in great alarm for the result of this singular phenomenon, and are using every means likely to check its ravages.—*Leeds Intelligencer. P. L. Aug.* 2.

Broomhead Moors, in the neighbourhood of Sheffield, continue on fire. The Hollow meadows on the Glossop road are also on fire; and the moors above Chesterfield have been in a similar situation for some days; they abound with grouse, which are preserved. The light at night is seen at seven or eight miles' distance, and appears very grand.—*Leeds Intelligencer. P. L. Aug.* 26.

About eight o'clock last night a most tremendous storm passed over the metropolis. The rain came down in torrents, and the lightning, which was of the blue cast, was extremely vivid, and was followed in quick succession by appalling claps of thunder. The tempest, though of short duration, exceeded in violence any we have noticed for a great length of time.—*P. L. Aug.* 26.

### *Ancient opinion of the producing cause of Winds in our Atmosphere.*

*Pliny* thought that the swift motion of the sun and other planets from east to west, (as it was then taken,) being opposed to the course of the air resting on the earth's surface, and carried with the sphere itself from west to east, served to put the atmosphere into such a movement as sufficed to preserve it from stagnating as a torpid mass, around the globe which it environs. His words are: "Omnium autem errantium siderum meatus, interque ea solis et lunæ, contrarium mundo agere cursum, i. e. lævum, illo semper in dexteram præcipiti.—[This supposes the spectator to be with his face to the north and looking upward at the planets.] Et quamvis assiduâ conversione immensæ celeritatis attollantur ab eo, rapianturque in occasum, adverso tamen ire motu per suos quæque passus: ita fieri, ne convolutus aer eamdem in partem æternâ mundi vertigine, ignavo

globo torpeat—sed findatur, *adverso siderum verbere discretus et digestus.*"—Nat. Hist. Lib. II. vi. 8.

*Electricity of Volcanoes.*

A day after the cone of scoriæ, four hundred feet high, had fallen in [to the crater of *Vesuvius,*] when, already, small but numerous torrents of lava had flowed, in the night of the 23d Oct. 1822, commenced the luminous eruption of ashes and *rapilli.* It lasted twelve days without intermission, [so long a time did the mountain take to disgorge the morsel it had swallowed!] but it was more intense during the first four. All this time the detonations in the interior of the volcano were so violent, that the mere concussion of the air (for no commotion was observed in the *earth,*) cracked the cielings of the apartments in the palace of Portici.

The watery and hot vapour, which shot up and diffused itself in the atmosphere, formed, in cooling, a thick cloud round the column of ashes and flame, which rose to the height of nine thousand feet. *Flashes* issued from the column in all directions, and the *thunder* (which was easily distinguished from the noise of the volcano) was plainly heard. In no other eruption was the manifestation of the electric power so astonishing.—*Edinburgh New Philo. Journal,* April Sept. 1828.

It is not to be doubted, that the falling in of the cone was the cause of these phenomena, and that the explosions were due to the escape of steam at intervals, through the added mass of materials in the furnace, while the earthy matter was thus working (if I may be allowed the phrase) over again, to furnish the attenuated products of dust and rapillo.—L. H.

| 1826. | | Wind. | By Clock. | | Temp. | | Med. | Evap | Hygr. at 9 a.m. | Rain, &c. |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Max. | Min. | Max. | Min. | | | | |
| 9 mo. Sept. | 1 | NW | 29·84 | 29·75 | 76° | 57° | 66·5 | — | | 9 |
| New M. | 2 | SW | 29·87 | 29·72 | 65 | 60 | 62·5 | — | | 30 |
| | 3 | E | 30·00 | 29·87 | 70 | 51 | 60·5 | — | | |
| | 4 | S | 29·99 | 29·97 | 76 | 50 | 63· | — | | 15 |
| | 5 | NW | 29·97 | 29·30 | 68 | 50 | 59· | — | | 53 |
| | 6 | SE | 29·30 | 29·02 | 68 | 53 | 60·5 | — | | 42 |
| | 7 | SE | 29·73 | 29·20 | 58 | 49 | 53·5 | — | | 19 |
| | 8 | SW | 29·82 | 29·64 | 71 | 51 | 61· | — | | 49 |
| | 9 | E | 30·08 | 29·82 | 62 | 57 | 59·5 | — | | |
| | 10 | SW | 30·28 | 30·09 | 64 | 54 | 59· | — | | |
| | 11 | NW | 30·30 | 30·27 | 64 | 44 | 54· | — | | |
| | 12 | NW | 30·27 | 30·14 | 68 | 46 | 57· | — | | |
| | 13 | W | 30·14 | 29·95 | 67 | 48 | 57·5 | ·87 | | |
| | 14 | W | 30·30 | 29·94 | 68 | 44 | 56· | — | | 13 |
| | 15 | NE | 30·38 | 30·30 | 68 | 46 | 57· | — | | |
| | 16 | E | 30·35 | 30·04 | 68 | 40 | 54· | — | | |
| | 17 | E | 30·04 | 29·85 | 73 | 52 | 62·5 | — | | 14 |
| | 18 | NE | 29·94 | 29·78 | 68 | 60 | 64· | — | | 34 |
| | 19 | S | 29·95 | 29·85 | 72 | 59 | 65·5 | — | | |
| | 20 | NE | 30·11 | 29·85 | 65 | 48 | 56·5 | — | | |
| | 21 | NE | 30·20 | 30·11 | 66 | 40 | 53· | — | | |
| | 22 | E | 30·20 | 30·13 | 61 | 32 | 46·5 | — | | |
| | 23 | E | 30·13 | 29·78 | 74 | 48 | 61· | — | | |
| | 24 | SE | 29·78 | 29·66 | 70 | 44 | 57· | ·90 | | 13 |
| | 25 | S | 29·89 | 29·70 | 70 | 39 | 54·5 | — | | 15 |
| | 26 | S | 30·00 | 29·74 | 70 | 63 | 66·5 | — | | 35 |
| | 27 | NW | 30·20 | 30·00 | 68 | 46 | 57· | — | | |
| | 28 | SW | 30·25 | 30·20 | 72 | 52 | 62· | — | | |
| | 29 | SE | 30·20 | 29·81 | 72 | 55 | 63·5 | — | | |
| | 30 | S | 29·89 | 29·83 | 72 | 52 | 62· | ·78 | | 2 |
| | | | 30·38 | 29·02 | 76 | 32 | 59·07 | 2·55 | | 3·43 |

Notes.—Ninth Mo. 1. Fine. 2. Rainy. 3. Cloudy. 4. Showery evening. 5. A shower at twelve a. m. 6—8. Rainy. 9—13. Fine. 14. Rainy afternoon. 15—17. Fine. 18. Rainy. 19—23. Fine. 24—26. Mornings rainy: afternoons fine. 27. Fine. 29. Foggy morning: fine day. 30. Cloudy and fine.

## RESULTS.

Winds: N, 4; E, 6; SE, 4; S, 5; SW, 4; W, 2; NW, 5.

| | | |
|---|---|---|
| Barometer: | Greatest height | 30·38 in. |
| | Least | 29·02 in. |
| | Mean | 29·947 in. |
| Thermometer: | Greatest height | 76° |
| | Least | 32° |
| | Mean | 59·07° |
| Evaporation | | 2·55 in. |
| Rain | | 3·43 in. |

*Falmouth, Sept.* 7.—Wind N. W.

*Portsmouth, Sept.* 8.—It has continued to blow strong all last night and to-day.

*Whitby, Sept.* 7.—Last night a tremendous gale of wind came on from E, which continued the whole of the night.

*Liverpool, Sept.* 7.—The wind during the last night blew a heavy gale from the northward, but during the day is more moderate.

### *Sudden depression of Temperature at sunset, on the summit of a Mountain, explained.*

At the summit of the *Imposible,* a mountain near Cumana, two hundred and ninety-six toises above the sea, the time early in September, "Sunset (says Humboldt) brought on a very rapid depression of temperature. Three minutes after the last apparent contact of the disc with the horizon of the sea, the thermometer was down suddenly from 25° to 21° Reaum. [88° to 79° F.] Was this extraordinary refrigeration the effect of a descending current? The air, however was calm, and there was no horizontal current perceptible."—*Relation Historique, &c.* Chap. 6, page 363, 4to.

The explanation I should give of the fact is as follows:—The moment the direct passage of the sun's rays through the lower atmosphere had ceased, repulsion became less, the air became contracted in volume, *and a portion of the colder stratum above the observers came down upon them.*

| 1826. | | Wind. | By Clock. | | Temp. | | Med. | Evap | Hygr. at 9 a. m. | Rain, &c. |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Max. | Min. | Max. | Min. | | | | |
| NM. 10mo.Oct. | 1 | Var. | 30·00 | 29·85 | 68° | 39° | 53·5 | — | | 4 |
| | 2 | E | 30·00 | 29·97 | 64 | 45 | 56·5 | — | | |
| | 3 | W | 29·97 | 29·80 | 62 | 45 | 53·5 | — | | |
| | 4 | NW | 29·84 | 29·80 | 58 | 35 | 46·5 | — | | |
| | 5 | NW | 30·19 | 29·84 | 55 | 29 | 42· | — | | |
| | 6 | SW | 30·22 | 30·14 | 55 | 28 | 41·5 | — | | |
| | 7 | SW | 30·14 | 29·90 | 64 | 44 | 54· | — | | — |
| | 8 | SW | 29·90 | 29 80 | 63 | 50 | 56·5 | — | | 16 |
| | 9 | W | 29·84 | 29·65 | 57 | 43 | 50· | — | | 27 |
| | 10 | SW | 30·12 | 29·65 | 65 | 55 | 60· | — | | 7 |
| | 11 | SW | 30·16 | 30·10 | 66 | 59 | 62·5 | — | | |
| | 12 | SW | 30·16 | 30·10 | 66 | — | | — | | |
| | 13 | SW | 30·31 | 30·13 | — | — | | — | | |
| | 14 | S | 30·25 | 29·95 | — | — | | — | | |
| | 15 | SE | 29·95 | 29·62 | 67 | 40 | 53·5 | — | | |
| | 16 | SE | 30·08 | 29·60 | 67 | 34 | 50·5 | ·90 | | 17 |
| | 17 | SE | 30·06 | 30·01 | 61 | 42 | 51·5 | — | | |
| | 18 | E | 30·09 | 30·05 | 62 | 57 | 59·5 | — | | — |
| | 19 | SE | 30·06 | 30·04 | 62 | 58 | 60· | — | | |
| | 20 | SE | 30·03 | 30·02 | 62 | 55 | 58·5 | — | | |
| | 21 | SE | 30·04 | 29·98 | 71 | 51 | 61· | — | | |
| | 22 | SE | 29·98 | 29·94 | 65 | 53 | 59· | — | | 53 |
| | 23 | SE | 30·02 | 29·94 | 65 | 50 | 57·5 | — | | 20 |
| | 24 | SW | 29·99 | 29·44 | 62 | 53 | 57·5 | — | | 29 |
| | 25 | SW | 29·46 | 29·40 | 59 | 42 | 50·5 | — | | 5 |
| | 26 | NW | 29·74 | 29·45 | 51 | 37 | 44· | — | | — |
| | 27 | SW | 30·15 | 30·09 | 54 | 40 | 47· | — | | 25 |
| | 28 | NW | 30·29 | 30·15 | 54 | 41 | 47·5 | — | | |
| | 29 | NW | 30·20 | 30·10 | 53 | 49 | 51· | — | | 2 |
| | 30 | SE | 30·16 | 30·07 | 55 | 47 | 51· | — | | |
| New M. | 31 | NW | 30·16 | 29·70 | 53 | 40 | 46· | ·65 | | |
| | | | 30·31 | 29·40 | 71 | 28 | 52·93 | 1·55 | | 2·05 |

Notes.—Tenth Mo. 1. A heavy shower about two p. m. 2—5. Fine. 6. Foggy morning: day fine. 7. Day fine: rain at night. 8. Cloudy: rain at night. 9. Cloudy and fine: night rainy. 10. Morning rainy: afternoon cloudy. 11. Cloudy. 12. Cloudy. [Min. temp. in London 60°. 13. Max. 60° min. 50°. 14. Max. 58° min. 48°.] 14, 15. Fine. 16. A heavy shower of rain, with thunder, about two p. m. 17—19. Cloudy. 20, 21. Fine. 22. Rainy. 23. A thun-

der-storm about one p. m.: lightning in the evening. 24. Fine day: rain at night. 25. Cloudy and fine. 26. Fine. 27. Rainy. 28. Cloudy. 29, 30. Cloudy. 31. Fine.

## RESULTS.

Winds: E, 2; S, 1; SE, 9; SW, 10; W, 2; NW, 6; Var. 1.

| | | |
|---|---|---|
| Barometer: | Greatest height | 30·31 in. |
| | Least | 29·40 in. |
| | Mean | 29·964 in. |
| Thermometer: | Greatest height | 71° |
| | Least | 28° |
| | Mean | 52·93° |
| Evaporation | | 1·55 in. |
| Rain | | 2·05 in. |

*Penzance, Oct.* 9.—Wind W, blowing strong, with frequent heavy showers of rain.

*Penzance, Oct.* 24.—Wind SSE, blowing a gale; and 25, wind W, moderate weather.

### *Tiffoon—origin of the name.*

In a periodical publication I have found the following quoted:—"In the year 1730 (says the writer) I was passenger in a ship from Batavia to China. Near the coast of China, we met one of those storms called a *tutfoon,* (tua fong, *Chin.* a great wind,) which carried away all our masts, bowsprit, and rudder; and in our hold we had six feet of water. Expecting every moment the ship would founder, the English and Portuguese stood in their shirts only, ready to be thrown off; but the Chinese merchants came upon deck, not in a cork-jacket, but I will call it a *bamboo habit,* which had lain ready in their chests against such dangers. Four bamboos, two before and two behind, were crossed on each side by two others, and the whole properly secured, leaving a space for their body; so that they had only to put it over their heads and tie it securely, which was done in two minutes; and we were satisfied they could not sink."

The contrivance is worth remembering; but the chief reason of my inserting it is, the etymology, which, if genuine, points out the true origin of the name of *tiffoon,* used for a violent sudden gust, and the root of the Greek and Latin terms for it.—L. H.

| 1826. | | Wind. | By Clock. | | Temp. | | Med. | Evap | Hygr. at 9 a. m. | Rain, &c. |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Max. | Min. | Max. | Min. | | | | |
| 11 mo. Nov. | 1 | NW | 29·86 | 29·64 | 50° | 38° | 44· | — | | |
| | 2 | N | 29·99 | 29·86 | 50 | 42 | 46· | — | | |
| | 3 | N | 29·90 | 29·79 | 52 | 47 | 49·5 | — | | 95 |
| | 4 | N | 29·94 | 29·80 | 47 | 39 | 43· | — | | 35 |
| | 5 | N | 29·90 | 29·83 | 50 | 43 | 46·5 | — | | 26 |
| | 6 | NW | 30·04 | 29·83 | 48 | 27 | 37·5 | — | | |
| | 7 | NW | 30·16 | 30·04 | 42 | 30 | 36· | — | | |
| | 8 | NW | 30·26 | 30·16 | 40 | 28 | 34· | — | | |
| | 9 | NW | 30·28 | 30·00 | 42 | 29 | 35·5 | — | | |
| | 10 | SW | 30·00 | 29·75 | 47 | 40 | 43·5 | — | | |
| | 11 | SW | 29·70 | 29·60 | 54 | 41 | 47·5 | — | | |
| | 12 | SW | 29·60 | 29·42 | 54 | 33 | 43·5 | — | | 1 |
| | 13 | SW | 29·42 | 28·80 | 48 | 38 | 43· | — | | 55 |
| | 14 | NW | 29·75 | 29·10 | 44 | 38 | 41· | — | | |
| | 15 | NW | 30·07 | 29·75 | 48 | 28 | 38· | — | | |
| | 16 | W | 30·07 | 29·93 | 45 | 32 | 38·5 | ·47 | | 5 |
| | 17 | SE | 30·22 | 30·00 | 47 | 37 | 42· | — | | |
| | 18 | NE | 30·26 | 30·20 | 47 | 44 | 45·5 | — | | — |
| | 19 | NE | 30·48 | 30·26 | 45 | 44 | 44·5 | — | | 12 |
| | 20 | NE | 30·60 | 30·48 | 42 | 40 | 41· | — | | |
| | 21 | NE | 30·60 | 30·49 | 45 | 37 | 41· | — | | |
| | 22 | N | 30·49 | 30·00 | 45 | 41 | 43· | — | | |
| | 23 | NW | 30·00 | 29·47 | 49 | 43 | 46· | — | | — |
| | 24 | NW | 29·47 | 29·10 | 46 | 30 | 38· | — | | — |
| | 25 | W | 29·40 | 29·10 | 41 | 20 | 30·5 | — | | |
| | 26 | NW | 29·85 | 29·40 | 35 | 25 | 30· | — | | — |
| | 27 | W | 29·91 | 29·85 | 37 | 30 | 33·5 | — | | — |
| | 28 | SW | 29·91 | 29·75 | 51 | 38 | 44·5 | — | | 33 |
| New M. | 29 | W | 29·75 | 29·39 | 51 | 40 | 45·5 | — | | 9 |
| | 30 | S | 29·47 | 29·38 | 45 | 37 | 41· | ·38 | | 1 |
| | | | 30·60 | 28·80 | 54 | 20 | 41·10 | ·85 | | 2·72 |

Notes.—Eleventh Mo. 1, 2. Fine. 3. Fine day: rainy night. 4, 5. Rainy. 6. Fine. 7—9. Fine: hoar-frost. 10—12. Fine. 13. Cloudy day: rainy night. 14—16. Fine. 17. Cloudy. 18, 19. Rainy. 20. Fine. 21, 22. Cloudy. 23—25. Fine. 26. Hoar-frost with dense fog: clear p. m. some snow, evening. 27. Foggy morning: fine p. m. a little snow in the night. 28. Rainy. 29. Fine, during the *solar eclipse:* rain p. m. 30. Cloudy.

## RESULTS.

Winds: N, 5; NE, 4; SE, 1; S, 1; SW, 5; W, 4; NW, 10.

| | | |
|---|---|---|
| Barometer: | Greatest height | 30·60 in. |
| | Least | 28·80 in. |
| | Mean | 29·858 in. |
| Thermometer: | Greatest height | 54° |
| | Least | 20° |
| | Mean | 41·10° |
| Evaporation | | 0·85 in. |
| Rain | | 2·72 in. |

*Liverpool*, *Nov.* 11.—The wind at tide time this morning was from the S by E. This evening from WNW, blowing very fresh.

*Dover*, *Nov.* 14.—Last night we experienced here an almost unprecedented storm of wind and rain.

*Falmouth*, *Nov.* 14.—Wind N. Yesterday, at five p. m. the wind suddenly shifted from SW to NW and NNW, and blew a tremendous gale for about two hours, when it became more moderate.

*Ramsgate*, *Nov.* 14.—It blew a very heavy gale all last night from SSW to NNE, and this day it has blown a strong gale from WNW to NNW.

*Deal*, *Nov.* 14.—Wind WNW. During last night it blew very hard from the southward and eastward, veering in squalls several points.

*Portsmouth*, *Nov.* 14.—It blew a heavy gale of wind last night and this morning, beginning at south and veering to all parts of the compass equally heavy. This day it has blown hard at NW. It is now at North, more moderate.

*Penzance*, *Nov.* 25.—Wind NNW, with moderate weather, but very cold; appearance of hail-showers.

### *Auguries from Thunder-storms.*

The ancients made use of the accidents attending thunder-storms to keep in exercise the arts of augury and divination. The priests were consulted upon these, and gave politic solutions of cases, adapted to the circumstances of the time. Thus, when the *Capitol* itself had been struck: "Nam Pater altitonans stellanti nixus Olympo, ipse suos quondam tumulos, ac templa petivit, Et Capitolinis injecit sedibus ignes.—Tum statua Nattæ, tum simulacra Deorum, Romulusque et Remus, cum altrice belluâ, vi fulminis icti conciderunt; deque his rebus extant haruspicum responsa verissima!" Natta, it seems, had founded an order of fasting priests, who were noble by virtue of their office; but Jove had a grudge against these upstarts. The sucking Romulus was accordingly stricken with the bolts of heaven, thus threatning Rome, the city which he had founded—a kind notice this, from Jupiter himself! But he played another and a worse trick—he knocked off his brother Pluto's head, which was found in the Tiber! "Nonne, cum multa alia mirabilia, tum illud in primis, cum Summanus [Pluto *noctu* tonans] in fastigio Jovis O. M. *qui tum erat fictilis*, e coelo ictus esset, nec usquam ejus simulacri caput inveniretur, haruspices in Tiberim id depulsum esse dixerunt: *idque inventum est eo loco* qui est ab haruspicibus demonstratus?"—*Cicero*, de Divinatione, Lib. I.

| 1826. | Wind. | By Clock. | | Temp. | | Med. | Evap | Hygr. at 9 a. m. | Rain, &c. |
|---|---|---|---|---|---|---|---|---|---|
| | | Max. | Min. | Max. | Min. | | | | |
| 1 mo. Dec. 1 | SW | 29·35 | 29·12 | 44° | 37° | 40·5 | — | | 21 |
| 2 | SW | 29·45 | 29·11 | 50 | 37 | 43·5 | — | | |
| 3 | SW | 29·60 | 29·41 | 42 | 30 | 36· | — | | 1 |
| 4 | NW | 29·84 | 29 60 | 46 | 35 | 40·5 | — | | |
| 5 | NW | 29·80 | 29·68 | 39 | 33 | 36· | — | | — |
| 6 | SE | 29·80 | 29·61 | 50 | 35 | 42·5 | — | | 39 |
| 7 | W | 29·61 | 29·30 | 53 | 48 | 50·5 | — | | 30 |
| 8 | W | 29·97 | 29·33 | 52 | 38 | 45· | — | | 3 |
| 9 | W | 29·95 | 29·87 | 53 | 39 | 46· | — | | 15 |
| 10 | SE | 29·67 | 29·89 | 54 | 48 | 51· | — | | 5 |
| 11 | SE | 29·91 | 29·85 | 55 | 44 | 49·5 | — | | 2 |
| 12 | S | 29·85 | 29·54 | 51 | 47 | 49· | — | | 22 |
| 13 | SE | 29·65 | 29·58 | 52 | 34 | 43· | — | | |
| 14 | SE | 29·69 | 29·65 | 44 | 42 | 43· | — | | |
| 15 | SE | 29·66 | 29·62 | 46 | 44 | 45· | — | | 5 |
| 16 | E | 29·95 | 29·65 | 44 | 38 | 41· | — | | |
| 17 | SE | 30·08 | 29·96 | 45 | 40 | 42·5 | ·49 | | |
| 18 | NE | 30·14 | 29·07 | 42 | 38 | 40· | — | | |
| 19 | SW | 30·14 | 29·85 | 41 | 39 | 40· | — | | |
| 20 | SE | 29·90 | 29·57 | 43 | 37 | 40· | — | | 15 |
| 21 | NW | 30·40 | 29·90 | 40 | 28 | 34· | — | | |
| 22 | W | 30·39 | 30·30 | 44 | 30 | 37· | — | | |
| 23 | NW | 30·40 | 30·33 | 47 | 40 | 43·5 | — | | — |
| 24 | N | 30·44 | 30·40 | 45 | 42 | 43·5 | — | | 3 |
| 25 | N | 30·55 | 30·42 | 45 | 40 | 42·5 | — | | |
| 26 | NE | 30·64 | 30·55 | 42 | 39 | 40·5 | — | | |
| 27 | NE | 30·70 | 30·64 | 45 | 30 | 37·5 | — | | |
| New M. 28 | NW | 30·66 | 30·47 | 37 | 29 | 33· | — | | |
| 29 | NW | 30·47 | 30·25 | 47 | 37 | 42· | — | | |
| 30 | NW | 30·34 | 30·23 | 49 | 44 | 46·5 | — | | |
| 31 | NW | 30·25 | 29·90 | 48 | 43 | 45·5 | ·40 | | |
| | | 30·70 | 29·11 | 55 | 28 | 42·16 | ·89 | | 1·61 |

Notes.—Cloudy: rain at night. 2. Fine. 3. Cloudy and fine. 4. Cloudy. 5. Cloudy: snow in the night. 6. Ground covered with snow a. m. which soon melted, rain coming on. 7. Rainy. 8—11. Cloudy. 12. Rainy. 13. Cloudy. 14. Fine. 15—17. Cloudy. 18—19. Gloomy. 20. Fine. 21. Very fine. 22. Foggy morning: day fine. 23. Gloomy. 24. Drizzly. 25, 26. Gloomy. 27. Fine. 28. Very fine. 29—31. Fine.

# RESULTS.

Winds: N, 2; NE, 3; E, 1; SE, 8; S, 1; SW, 4; W, 4; NW, 8.

| | | |
|---|---|---|
| Barometer: | Greatest height | 30·70 in. |
| | Least | 29·11 in. |
| | Mean | 29·956 in. |
| Thermometer: | Greatest height | 55° |
| | Least | 28° |
| | Mean | 42·16 in. |
| Evaporation | | 0·89 in. |
| Rain | | 1·61 in. |

*Liverpool, Dec.* 3.—The wind during the whole of last night and this day has blown a gale from the WNW, the appearances of this evening do not indicate a change.

*Portsmouth, Dec.* 5.—No arrivals nor sailings. The wind in the early part of the day was squally from NW. It is now nearly a calm, seven o'clock, p. m.

*Penzance, Dec.* 8, *and* 9.—Wind WSW and W, blowing hard, with gusts of rain.

*Dec.* 10.—It blows a hurricane from the SSW, with thick rainy weather.

*Padstow, Dec.* 21.—We experienced a severe gale last night and this morning from NNW to NNE.

*Falmouth, Dec.* 23.—Wind WNW.

*Portsmouth, Dec.* 25.—Wind ENE.

*Petersburgh, Dec.* 27.—Winter did not set in here till yesterday. The freezing of the Neva has interrupted the communication with Vassili Ostrow. We do not remember the navigation of the Neva to have ever been open so late as this year. Since the year 1718, when the observations on the freezing of the river were first registered, the year 1772 was that in which the Neva continued open the longest, viz. to the 24th of December.—*P. L.*

*Jan.* 24.—A letter from Sympheropol, in the Crimea, dated Dec. 25, says, that at that time there was no appearance of winter in the peninsula. The rose-trees in the gardens were still green, the stocks in full blossom, and in the beginning of December there were strawberries nearly ripe in many places.

*On the altitude, or depth, and composition of our Atmosphere.* Dalton, *Philo. Trans.* 1826, P. ii. p. 184.

The author states, that the limit of altitude in an atmosphere of oxygen gas, weighing 30 in. [of quicksilver] in the Barometer, being assumed at forty-five miles, that of the same gas weighing 6·3 in. [the proportionate weight of the oxygen in the common air] will be found about thirty-eight miles, and that of the azotic gas, weighing 23·7 in. and making the remainder of the volume of the common air, fifty-four miles. The carbonic acid atmosphere, he thinks, must extend to the height of ten miles, being of the pressure of ·03 in. of quicksilver; and the aqueous vapour, which weighs as four inches, to fifty miles.

Thus we have an atmosphere which (could we explore it) might be found sensible *(as air)* to fifty-four miles in height from the earth, and capable of affording an aqueous condensation, at certain seasons, to a height sufficient to account for the formation of snow on the summits of the highest mountains; as for every other appearance depending on the presence, at such elevations, of a portion of water in the air.—L. H.

| 1827. | | Wind. | By Clock. | | Temp. | | Med. | Evap | Hygr. at 9 a. m. | Rain, &c. |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Max. | Min. | Max. | Min. | | | | |
| 1 mo. Jan. | 1 | W | 29·54 | 29·40 | 48° | 34° | 41· | — | | 24 |
| | 2 | NW | 29·90 | 29·75 | 38 | 21 | 29·5 | — | | — |
| | 3 | NW | 29·74 | 29·53 | 26 | 12 | 19· | — | | — |
| | 4 | NW | 30·20 | 29·74 | 30 | 12 | 21· | — | | — |
| | 5 | NW | 30·41 | 30·20 | 32 | 22 | 27· | — | | — |
| | 6 | SW | 30·40 | 30·17 | 41 | 29 | 35· | — | | — |
| | 7 | SW | 30·19 | 30·00 | 48 | 47 | 47·5 | — | | 9 |
| | 8 | SW | 30·00 | 29·79 | 50 | 42 | 46· | — | | |
| | 9 | NW | 30·00 | 29·75 | 46 | 40 | 43· | — | | — |
| | 10 | W | 29·75 | 29·25 | 50 | 37 | 43·5 | — | | 40 |
| | 11 | W | 29·40 | 29·06 | 50 | 32 | 41· | — | | 8 |
| | 12 | NW | 30·05 | 29·40 | 44 | 28 | 36· | — | | |
| | 13 | W | 29·90 | 29·30 | 50 | 43 | 46·5 | — | | — |
| | 14 | W | 30·28 | 29·30 | 40 | 21 | 30·5 | — | | 4 |
| | 15 | NW | 30·35 | 30·03 | 40 | 33 | 36·5 | — | | |
| | 16 | NW | 30·34 | 30·03 | 48 | 33 | 40·5 | — | | |
| | 17 | NW | 30·34 | 30·30 | 43 | 31 | 37· | — | | — |
| | 18 | E | 30·37 | 30·34 | 40 | 24 | 32· | ·48 | | |
| | 19 | N | 30·41 | 30·24 | 36 | 20 | 28· | — | | — |
| | 20 | NW | 30·24 | 29·86 | 35 | 23 | 29· | — | | |
| | 21 | NE | 29·86 | 29·43 | 30 | 20 | 25· | — | | — |
| | 22 | SE | 29·70 | 29·60 | 30 | 13 | 21·5 | — | | — |
| | 23 | NW | 29·63 | 29·52 | 32 | 26 | 29· | — | | — |
| | 24 | S | 29·70 | 29·63 | 35 | 23 | 29· | — | | — |
| | 25 | SE | 29·74 | 29·70 | 36 | 13 | 24·5 | — | | |
| | 26 | NW | 30·28 | 29·74 | 30 | 24 | 27· | — | | |
| New M. | 27 | NE | 30·36 | 30·15 | 38 | 20 | 29· | — | | |
| | 28 | SW | 30·15 | 29·92 | 43 | 40 | 41·5 | — | | |
| | 29 | SW | 29·94 | 29·80 | 48 | 32 | 40· | — | | 28 |
| | 30 | S | 29·80 | 29·70 | 42 | 36 | 39· | — | | |
| | 31 | S | 29·78 | 29·70 | 47 | 40 | 43·5 | ·30 | | 2 |
| | | | 30·41 | 29·06 | 50 | 12 | 34·15 | ·78 | | 1·15 |

NOTES.—1. Fine. 2. Fine: a little snow. 3. A little snow early: fine. 4. A little snow in the night: fine. 5. Some snow early. 6. Cloudy: a little hail p. m. 7. Cloudy: drizzly. 8. Cloudy. 9. Cloudy and fine. 10. Rainy. 11. Snow and sleet during the day. 12. Cloudy. 13. Hoar frost: drizzly: rain. 14. Wind very boisterous all day, with occasional rain. 15. Very clear morning: fine day. 16—18. Cloudy. 19. Snow p. m. 20. Hoar frost: day fine. 21. Snowy at intervals all day. 22. The snow deep on the ground: a driving wind from SE. 23. Snow showers. 24. Snowy.

25. Fine. 26. Hoar-frost. 27. Cloudy and fine. 28. Fine: a thaw commenced about 11 a. m. 29—31. Cloudy.

## RESULTS.

Winds: N, 1; NE, 2; E, 1; SE, 2; S, 3; SW, 5; W, 5; NW, 12.

| | | |
|---|---|---|
| Barometer: | Greatest height | 30·41 in. |
| | Least | 29·06 in. |
| | Mean | 29·824 in. |
| Thermometer: | Greatest height | 50° |
| | Least | 12° |
| | Mean | 34·15° |
| Evaporation | | 0·78 in. |
| Rain | | 1·15 in. |
| And in second guage | | 1·04 in. |

The fall of snow on Thursday night in the north was exceedingly great. The Manchester mail was unable to proceed, having got completely imbedded in the snow. The consequence was, the mail was obliged to be forwarded by express; and even then it did not reach the post-office till eleven, which is nearly six hours after its regular time.—*P. L. Jan.* 6.

*Liverpool, Jan.* 9.—The wind during the whole of last night and this day has blown a very heavy gale from WNW.

*Greenock, Jan.* 9.—Since last night it has blown a heavy gale from the westward.

*Liverpool, Jan.* 10.—The wind at the latter part of last night was more moderate. This morning it veered round to the southward with rain, and has since backed to the NW, blowing a hard gale, accompanied with tremendous squalls.

*Falmouth, Jan.* 10.—Wind W. fresh gales and squally, with thick weather.

*Portsmouth, Jan.* 11.—No arrivals nor sailings. It blew very hard the whole of last night and to-day, from W to WNW.

For some days during the past week the wind has blown a complete hurricane. The damage that has been done in this town and neighbourhood is very considerable.—*Tyne Mercury, Jan.* 18.

*Falmouth, Jan.* 13.—Wind W. At one a. m. on the 12th, there was a tremendous squall of wind felt here, which did a great deal of damage to the houses in the town and neighbourhood.

*Deal, Jan.* 12.—In a squall, at 10 a. m. the wind suddenly flew round to NNE, and at noon the whole of the outward-bound sailed.

*Falmouth, Jan.* 14.—Wind W. strong gales and heavy squalls.

*Harwich, Jan.* 14.—It has blown a hurricane all day from WNW and NW.

*Deal, Jan.* 15.—Throughout last night and chief part of to-day it has blown strong in squalls from NNW: this afternoon it is more moderate; wind about NW.

*Hamburgh, Jan.* 19.—The Elbe is full of drifting ice this day, so that the pilots will not take ships down the river.

*Rotterdam, Jan.* 23.—Vessels cannot proceed to sea on account of the ice.

*Antwerp, Jan.* 26.—The ice increases in the river, and the navigation is stopped.

*Ostend, Jan.* 24.—Very bad weather: snow deeper than has been known for many years in this country.

*York* and its neighbourhood was visited by a tremendous storm of wind, accompanied with hail and rain, which continued through Saturday night, and the greater part of Sunday. Our streets bore ample testimony to its violence, being strewed with broken tiles, &c. Extensive injury took place at the city gaol, when the two circular walls surrounding the felon's yard, only just completed, were forced inwards by the falling of the outer wall, which is sixty feet high, from the top to the very foundation, making a chasm upwards of fifty yards in length.—*York Herald, Jan.* 24.

*Hamburgh, Jan.* 23.—The Elbe is full of ice, and the navigation must, for the present, be considered as totally impeded. A tremendous gale from NW was experienced at Elsineur on the night of the 14th inst.

*Amsterdam, Jan.* 26.—The river before the town is frozen all over, and the ice extends a considerable way in the Zuider Zee, where, for the present, all navigation is impeded. The coast of the Texel is also full of floating ice.

*Rotterdam, Jan.* 26.—The entrance of the rivers are so much beset with ice, that it is not recommended for vessels to attempt the coast.

The recent storm has occasioned immense damage in different parts of this country as well as Ireland. At Bolton, part of a factory has been blown down; at Liverpool the river was like the sea, and many vessels have been injured; and at Leeds a number of buildings have been damaged. At Wexford and Kilkenny the mischief has been great. Kyle, the seat of Mr. Harvey, of the former place, is partly destroyed, and trees of a century standing have been torn up, and many buildings unroofed at other places.—*Jan.* 26.

*Deal, Jan.* 27 *and* 28.—During the night and this morning it blew hard from the eastward.

*Penzance, Jan.* 28 *and* 29.—Wind SE and ESE, blowing hard, with very dirty weather.—*P. L.*

## Aurora Borealis.

A fine display of the aurora borealis was visible on the night of Thursday [18th] from the forest, near Woodford, seven miles NE of London. The afternoon was fine, the temperature about sunset approaching to the freezing point. About eight o'clock a strong gleam of light was observed in the north horizon, which extended from the NE to the NW points of the horizon, and was in height about 15°; the main body of it was of a faint greenish blue tint, and was vivid enough to cast a considerable shadow. After continuing of a steady brightness till near ten, strong rays of light, in rapid succession, were seen darting up, in a parallel direction, to about half the altitude of the polar star; occasionally *radiations of darkness* (if I may so express myself) appeared in the midst of the aurora, as if some solid body intervened to intercept its admirably vivid coruscations. About half an hour after, the radiations were succeeded by beautiful waves or *fumes* of phosphorescent light, which issued from the central part of the aurora in *remarkably rapid* succession; these continued but a few minutes, when the aurora was observed to grow fainter and fainter, and by midnight it subsided.—*P. L. Jan.* 25.

*Rome, Jan.* 25.—The inclemency of the season is very remarkable. Even in the southern parts of Italy, wind, rain, snow, and ice, follow each other in rapid succession. On the 19th, Reaumur's thermometer was at 4° below freezing, and on the morning of the 29th 4½°. This is the severest cold we have had at

Rome since 1808, when the thermometer was 5° below freezing. This severe cold has been suddenly succeeded by the sirocco, which has brought so much water, and so melted the snow in the neighbouring mountains, that the Tiber yesterday overflowed its banks in several parts of the city. At the beginning of last night it was thirteen metres and nine decimetres above its usual level; it then began to fall a little, and this morning had decreased half a decimetre.

*Warsaw, Jan.* 27.—Letters from Moscow, of the 20th, say:—"Since the commencement of the winter, we have already had three thaws, succeeded by returns of frost. At noon, and in the sunshine, the thermometer of Reaumur is at 15° below Zero. The roads are admirable for sledges: the diligences travel in sixty-nine hours, the hundred and four German (four hundred and seventy English; miles, between this city and St. Petersburgh, and the number of drivers of sledges is already above eleven thousand.—*P. L.*

| 1827. | | Wind. | By Clock. | | Temp. | | Med. | Evap | Hygr. at 9 a. m. | Rain, &c. |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Max. | Min. | Max. | Min. | | | | |
| 2 mo. Feb. | 1 | SW | 29·78 | 29·70 | 48° | 34° | 41· | — | | |
| | 2 | NE | 30·00 | 29·78 | 40 | 27 | 33·5 | — | | — |
| | 3 | NE | 30·65 | 30·55 | 36 | 26 | 31· | — | | |
| | 4 | NE | 30·65 | 30·57 | 38 | 33 | 35·5 | — | | |
| | 5 | E | 30·57 | 30·32 | 40 | 23 | 31·5 | — | | |
| | 6 | N | 30·50 | 30·33 | 40 | 34 | 37· | — | | — |
| | 7 | NE | 30·56 | 30·50 | 40 | 24 | 32· | — | | |
| | 8 | SE | 30·58 | 30·45 | 35 | 27 | 29·5 | — | | |
| | 9 | NE | 30·45 | 30·23 | 35 | 26 | 30·5 | — | | |
| | 10 | NE | 30·23 | 29·85 | 37 | 28 | 32·5 | — | | |
| | 11 | NE | 29·93 | 29·80 | 36 | 27 | 33· | — | | — |
| | 12 | NE | 30·20 | 29·93 | 41 | 30 | 35·5 | — | | — |
| | 13 | NW | 30·28 | 30·08 | 40 | 26 | 33· | — | | |
| | 14 | NW | 30·08 | 29·88 | 40 | 29 | 34·5 | — | | — |
| | 15 | NW | 30·25 | 29·97 | 39 | 16 | 27·5 | — | | — |
| | 16 | Var. | 30·25 | 29 99 | 33 | 14 | 23·5 | — | | |
| | 17 | NW | 30·14 | 29·97 | 29 | 10 | 19·5 | — | | |
| | 18 | E | 30·15 | 29·94 | 32 | 10 | 21· | — | | |
| | 19 | E | 29·94 | 29·74 | 31 | 19 | 25· | — | | |
| | 20 | NE | 29·73 | 29·69 | 34 | 29 | 31·5 | ·85 | | |
| | 21 | NE | 29·95 | 29·70 | 36 | 31 | 33·5 | — | | — |
| | 22 | N | 30·14 | 29·95 | 40 | 22 | 31· | — | | |
| | 23 | NW | 30·12 | 30·00 | 40 | 20 | 30· | — | | |
| | 24 | NW | 30·26 | 30·02 | 44 | 14 | 29· | — | | |
| New M. | 25 | SE | 30·26 | 29·80 | 43 | 33 | 38· | — | | — |
| | 26 | SW | 29·80 | 29·47 | 41 | 39 | 40· | — | | 13 |
| | 27 | SW | 29·81 | 29·50 | 55 | 37 | 46· | — | | — |
| | 28 | SE | 29·65 | 29·27 | 57 | 41 | 49· | ·47 | | 75 |
| | | | 30·65 | 29·27 | 57 | 10 | 32·66 | 1·32 | | 0·88 |

Notes.—Second Mo. 1. Cloudy. 2. Snow in the evening, and during the night. 3. Fine. 4, 5. Cloudy. 6. Drizzly. 7. Fine. 8. White frost: fine day. 9, 10. Fine. 11. Cloudy. 12. Slight showers of snow during the day. 13. Fine. 14. Cloudy: a little snow. 15. Fine, with occasional snow showers. 16. Fine: bleak. 17. Hoar frost: foggy a. m.: fine p. m. 18. Fine. 19, 20. Cloudy. 21. Cloudy: some snow p. m. 22. Fine. 23. Foggy a. m.: cloudy. 24. Foggy a. m.: fine day. 25. Hoar frost: fine p. m. 26. A thaw commenced this morning, with gentle rain: a very stormy night succeeded. 27. Boisterous wind in the morning: rainy p. m. 28. Rainy: a very boisterous night.

## RESULTS.

Winds: N, 2; NE, 10; E, 3; SE, 3; SW, 3; NW, 6; Var. 1.

| | | |
|---|---|---|
| Barometer: | Greatest height | 30·65 in. |
| | Least | 29·27 in. |
| | Mean | 30·071 in. |
| Thermometer: | Greatest height | 57° |
| | Least | 10° |
| | Mean | 32·66° |
| Evaporation | | 1·32 in. |
| Rain | | 0·88 in. |

*Penzance, Feb.* 1.—Wind SE and ESE, blowing fresh.

*Lowestoff, Feb.* 9.—It blew very hard at ENE all last night, and the vessels on the strand have suffered much.

*Liverpool, Feb.* 12.—Wind N by E. In consequence of the long-prevailing easterly winds, we have had very few foreign arrivals during the last fortnight.

The prevalence of easterly winds, when the northern ports are shut by the frost, produces a wonderful change at the custom-house; for the last week the entries of merchantmen inwards average only about two a day. It is calculated there are at least two hundred vessels from the westward beating about the mouth of the Channel.—*Feb.* 17.

*Hanover, Feb.* 1.—Since the beginning of last month the mild weather has been succeeded by violent storms, which come from the Alps, and not from the sea; they attained their greatest height on the 14th; they rooted up trees, and even threw down houses, but do not appear to have done any damage to the sea-dykes, though the town of Embden was inundated. Since the storm, we have had frost, with fine weather, deep snow lying on the ground, but the cold has been moderate, not exceeding 10°. The Weser and the Elbe are frozen up.

*Whitby, Feb.* 18.—Yesterday evening the wind suddenly shifted in squalls from NNW to E, when the following vessels were driven on shore, the crews saved by the life-boat, &c.

*Liverpool, Feb.* 18.—Wind ESE, blowing fresh.

*Brixham, Feb.* 18, *five o'clock p. m.*—It is blowing a very heavy gale at E by S, with a tremendous sea.

*Memel, Feb.* 27.—The winter, until the 13th inst. was uncommonly mild, but these fourteen days past the frost has been so very keen, that there is much floating ice along the coast, to a considerable distance from the shore.

*Berlin, Feb.* 5.—Violent storms, especially that of the 14th of January, have done great damage in the Silesian mountains. The snow, especially in the vallies of the province of Glatz, is deeper than ever was known. The houses are entirely buried under it, and the inhabitants, who have made some passages, like tunnels, through the snow, are obliged to burn candles all day long.

*Carlshrue, Feb.* 8.—The Necker and the Rhine are so full of floating ice, that we expect every moment to see them quite frozen over. We have not had so much snow for many years, and the cold increases every day.

### Avalanche.

We have received from the Valais the melancholy news, that on the night of the 17th of this month, the town of Biel, in the valley of Conche, was, in a great measure, destroyed by an avalanche, which fell from a quarter where previously there never were any known. The number of persons who have fallen victims are yet unknown. Every kind of succour has been given, and already thirty bodies have been found, most of them shockingly mutilated, by the falling of the houses, about fifty of which appear to have been destroyed.—*Nouveliste Vaudois. P. L. Feb.* 7.

| 1827. | Wind. | By Clock. | | Temp. | | Med. | Evap | Hygr. at 9 a. m. | Rain, &c. |
|---|---|---|---|---|---|---|---|---|---|
| | | Max. | Min. | Max. | Min. | | | | |
| 3 mo. March 1 | SW | 29·50 | 29·21 | 55° | 48° | 51·5 | — | | 37 |
| 2 | SW | 29·56 | 29·25 | 49 | 37 | 43· | — | | 24 |
| 3 | SW | 29·37 | 28·75 | 49 | 39 | 44·5 | — | | 8 |
| 4 | SW | 29·78 | 28·72 | 51 | 30 | 40·5 | — | | 8 |
| 5 | SW | 29·75 | 29·00 | 49 | 39 | 44· | — | | 10 |
| 6 | SW | 29·60 | 28·90 | 50 | 34 | 42· | — | | 12 |
| 7 | SW | 29·60 | 28·80 | 52 | 42 | 47· | — | | 5 |
| 8 | SW | 29·46 | 28·80 | 51 | 27 | 39· | — | | 1 |
| 9 | NE | 29·85 | 29·46 | 46 | 25 | 35·5 | — | | |
| 10 | E | 29·92 | 29·49 | 52 | 35 | 43·5 | — | | 13 |
| 11 | W | 29·83 | 29·50 | 56 | 36 | 46· | — | | 32 |
| 12 | W | 29·97 | 29·78 | 55 | 46 | 50·5 | — | | |
| 13 | NW | 29·95 | 29·55 | 56 | 44 | 50· | ·47 | | 6 |
| 14 | NW | 30·02 | 29·63 | 49 | 40 | 44·5 | — | | 20 |
| 15 | NW | 30·22 | 29·63 | 48 | 29 | 38·5 | — | | 6 |
| 16 | NW | 30·20 | 29·35 | 51 | 42 | 46·5 | — | | 22 |
| 17 | NW | 30·14 | 29·36 | 45 | 32 | 38·5 | — | | 3 |
| 18 | NW | 30·40 | 30·14 | 45 | 25 | 35· | ·55 | | |
| 19 | SW | 30·38 | 30·25 | 52 | 40 | 46· | — | | |
| 20 | W | 30·25 | 30·11 | 55 | 47 | 51· | — | | |
| 21 | NW | 30·14 | 30·10 | 54 | 45 | 49·5 | — | | 5 |
| 22 | NW | 30·14 | 30·10 | 58 | 38 | 48· | — | | |
| 23 | NW | 30·14 | 30·11 | 60 | 43 | 51·5 | — | | |
| 24 | SW | 30·13 | 30·00 | 56 | 37 | 46·5 | — | | |
| 25 | NW | 30·36 | 30·02 | 40 | 28 | 34· | — | | |
| 26 | SW | 30·36 | 30·00 | 50 | 30 | 40· | — | | |
| New M. 27 | SW | 30·00 | 29·46 | 53 | 42 | 47·5 | — | | — |
| 28 | NW | 29·46 | 28·92 | 56 | 36 | 46· | — | | 34 |
| 29 | W | 29·45 | 29·20 | 51 | 34 | 42·5 | ·95 | | — |
| 30 | W | 30·20 | 29·45 | 48 | 36 | 42· | — | | — |
| 31 | NW | 30·22 | 30·18 | 58 | 36 | 47· | ·23 | | 4 |
| | | 30·40 | 28·72 | 60 | 25 | 44·24 | 2·20 | | 2·42 |

Notes.—1, 2. Showery. 3. Cloudy. 4. Cloudy, with showers. 5. Showers: very stormy night. 6, 7. Showers. 8. Cloudy: windy. 9, 10. Fine. 11. Fine day: stormy night. 12. Fine. 13. Rainy. 14. Fine: rainy night. 15. Showers. 16. Fine morning: cloudy afternoon. 17. Windy and cloudy, with showers. 18. Fine: windy. 19. Cloudy. 21. Rainy evening. 22—27. Fine. 28. Rainy night with high wind. 29. Cloudy: a shower of hail p. m. 30. Some hail about noon: very bleak wind. 31. Fine.

## RESULTS.

Winds: NE, 1; E, 1; SW, 12; W, 5; NW, 12.

| | | |
|---|---|---|
| Barometer: | Greatest height | 30·40 in. |
| | Least | 28·72 in. |
| | Mean | 29·717 in. |
| Thermometer: | Greatest height | 60° |
| | Least | 25° |
| | Mean | 44·24° |
| | For 30 days, the sun in Pisces | 40·166° |
| Evaporation | | 2·20 in. |
| Rain | | 2·42 in. |

### *An oval Lunar Halo.*

At *Tottenham*, on the 9th of the month, between eight and nine p. m. we had a lunar halo in view, colourless, of considerable depth in the band, and perceptibly oval, the oblate part of the figure being directed towards the horizon. It was full 40° in diameter, and as nearly as could be judged by the eye, the lower semi-diameter of the figure exceeded the upper by a fifth part. The upper semi-diameter was apparently a true segment of a circle. The ensuing day was very fine, after hoar frost; but on the 11th came wind and rain, with a sudden depression of the barometer. The appearance was analogous to that of the sun's disk, when it is but a little above the horizon, in a hazy, moist air, or among *Cirrostratus* clouds, when we often see the figure become oblate downwards by refraction, as here described.—L. H.

*Isle of Arran*, *March* 5.—On the 1st inst. a tremendous gale from the NW.

*Penzance*, *March* 3 *and* 4.—Wind SSW, blowing a heavy gale, with a tremendous sea, and every appearance of its increasing. No arrivals nor sailings.

*Falmouth*, *March* 7.—It continued blowing from the date of our last until midnight, a tremendous gale from WSW to W, when it moderated, and the wind to SSW, from which quarter it now blows a fresh breeze, with cloudy weather.

*Deal*, *March* 7.—Wind SW. The chief part of last night it blew very hard from S and W, and towards morning moderated, and became fine about 10 a. m.

*Portsmouth*, *March* 8.—Wind WSW. It has blown a heavy gale all last night and this forenoon, from WSW. The gale moderated about three p. m.

*Liverpool*, *March* 12.—During the whole of last night and this day the wind has blown a hard gale from the westward.

So completely were the roads blocked up with the snow on Friday, that only six carriers from the country were in the market, in the High-street, on Saturday morning; and in consequence, the prices of eggs, butter, and poultry, were greatly raised. A dozen of eggs, which on the preceding Saturday sold at 8d.

was raised to 1s. 6d., and an additional 4d. was put on the pound of butter.—*Edinburgh Observer*, *March* 16.

The snow has been equally heavy in the sister island as it has been here. At mid-day, on Friday, all the roads round Belfast were impassable, and a number of the mails were due.—*Glasgow Chronicle*, *March* 16.

*Penzance*, *March* 17.—Wind N and NNW, blowing a hurricane.

*Deal*, *March* 17.—Wind NNW to NW. This afternoon it came on to blow a heavy gale from NNW. Most of the ships drove, and let go second anchors.

*March* 18.—During this day it has blown very hard from the northward.

*Margate*, *March* 18.—It has blown very hard for the last twenty-four hours from the northward.

*Lowestoff*, *March* 18.—A heavy gale was experienced here last night.

*Sheerness*, *March* 18.—There has been a very severe gale from NNW to NNE.

*Portsmouth*, *March* 29.—Wind WSW. About eight p. m. it came on to blow a most tremendous gale from WSW, and continued with unabated violence, during which, &c.

*Deal*, *March* 29.—Last night it blew very hard from the westward, and throughout the day it has been squally.—*P. L.*

## *The Music of the Spheres.*

In treating of the distances between the planets, and between the outermost of these and the sphere, *Pythagoras* had attempted to establish a set of *harmonic proportions*, which he compared to those that obtain in musical chords. "Sed Pythagoras interdum ex musicâ ratione appellat *tonum*, quantum absit a terrâ Luna, &c." so making out seven tones, or the *diapason*, from the whole. But Pliny, who cites Pythagoras in this, himself fell into (or was led into) the error of putting sounds for *spaces;* and hence, in another part of his work, he treats seriously the question, whether the sphere revolves without noise above, (its motion being plainly silent to us here below;) whether the sound be so vast as to exceed our sense of hearing; or, lastly, whether it be, in reality, *a concert of the sweetest music!* "An sit immensus et ideo sensum aurium excedens tantæ molis rotatæ vertigine assiduâ *sonitus*, non equidem facile dixerim: non, hercle, magis quam circumactorum simul *tinnitus* siderum, suosque volventium orbes; an dulcis quidam et incredibili suavitate *concentus*. Nobis qui intus agimus juxta diebus noctibusque tacitus labitur mundus."—*Pliny, Nat. Hist.* Book ii.

## *On the Malaria of Italy.*

Rome is said, in the time of Claudius Cæsar, to have had a population of above six millions, and to have extended from Tivoli to Ostia; that is, through countries now, from the nature of the climate, uninhabitable. There is no question that the country about Rome was always unhealthy, and that there was a constant endeavour to

render it healthy by drains, &c., but still it cannot be denied that things are worse than they were—that there is more of unhealthy country, and that the diseases are more violent. *In the Campagna, fevers are known to kill in twenty-four hours;* to kill, the author should have said, such as are already half dead by the effects of the climate. In ancient time there were in Latium vast forests, now there are scarcely any. The closest and most thickly-inhabited parts of Rome are the healthiest; while all the south, which was formerly so, is now deserted, and under the influence of malaria. Is this effect or cause? The mischievous principle does not travel far, for the south wind, though it traverses the Pontine Marshes, does not bring it to Rome; nor does it rise high,—for example, the Forum is unhealthy, the Capitol, immediately above it, is quite healthy. The height, however, required for safety, is a very considerable one, when the infection is strong. M. Simond mentions five hundred feet as requisite, in the Pontine Marshes. *The houses which have gardens are unhealthy, even in the better quarters of the city.*

Heat and moisture seem necessary for the production of malaria; but a heat below a certain point does not effect it. The part around Rome, which is now a positive pest, was healthy in ancient time, *when covered with houses.* The reverse of this is true of the chief site of modern Rome, the Campus Martius. It is considered by M. Simond, that *woods* may act as a screen from the infectious air, and that the coolness of the surface covered by timber, may be a means of keeping down the malaria; but the most effectual preservative seems to be, to avoid the early morning and evening air, to have a fire in the house, [at evening, and to lodge as high as possible,] *all which agrees with the notion, that the malaria consists in a noxious exhalation,* [*from a soil containing putrifying vegetable matter,*] *which is condensed in the dew.*

The absorption of this tainted dew by the skin, may be as effectual for the introduction of the poison into the body, as the reception of the noxious vapour by the lungs; but I think the former cause should not be considered as excluding the latter.—L. H. See the *For. Quarterly Review,* in an article on the work of M. Simond on this subject.

| 1827. | Wind. | By Clock. | | Temp. | | Med. | Evap | Hygr. at 9 a. m. | Rain, &c. |
|---|---|---|---|---|---|---|---|---|---|
| | | Max. | Min. | Max. | Min. | | | | |
| 4 mo. April 1 | SW | 30·20 | 30·13 | 49° | 44° | 46·5 | — | | 2 |
| 2 | W | 30·14 | 30·12 | 48 | 38 | 43· | — | | — |
| 3 | NW | 30·15 | 30·10 | 58 | 44 | 51· | — | | |
| 4 | SW | 30·16 | 30·14 | 63 | 44 | 53·5 | — | | |
| 5 | SW | 30·15 | 29·97 | 67 | 43 | 55· | — | | |
| 6 | SW | 30·19 | 29·97 | 72 | 49 | 60·5 | — | | 14 |
| 7 | NW | 30·41 | 30·19 | 61 | 45 | 53· | — | | |
| 8 | SE | 30·40 | 30·00 | 63 | 43 | 53· | — | | — |
| 9 | SW | 30·00 | 29·90 | 61 | 49 | 55· | — | | |
| 10 | NW | 29·92 | 29·88 | 60 | 46 | 53· | — | | 6 |
| 11 | SE | 29·93 | 29·82 | 62 | 46 | 54· | ·98 | | — |
| 12 | SW | 30·15 | 29·82 | 56 | 37 | 46·5 | — | | 22 |
| 13 | NW | 30·28 | 30·15 | 65 | 35 | 50· | — | | |
| 14 | NW | 30·28 | 30·11 | 62 | 43 | 52·5 | — | | |
| 15 | NW | 30·12 | 30·10 | 63 | 44 | 53·5 | — | | — |
| 16 | NE | 30·13 | 30·10 | 58 | 37 | 47·5 | — | | — |
| 17 | NE | 30·10 | 29·95 | 59 | 40 | 49·5 | — | | 28 |
| 18 | NW | 29·95 | 29·80 | 51 | 40 | 45·5 | — | | 5 |
| 19 | NE | 29·79 | 29·67 | 51 | 33 | 42· | — | | — |
| 20 | E | 29·67 | 29·54 | 54 | 34 | 44· | — | | 1 |
| 21 | NE | 29·72 | 29·54 | 51 | 42 | 46·5 | — | | — |
| 22 | NE | 29·83 | 29·72 | 45 | 37 | 41· | — | | 10 |
| 23 | NW | 29·76 | 29·54 | 42 | 31 | 36·5 | — | | — |
| 24 | SW | 29·83 | 29·54 | 50 | 32 | 41· | — | | 2 |
| 25 | SW | 30·20 | 29·83 | 55 | 24 | 39·5 | — | | |
| New M. 26 | NW | 30·40 | 30·20 | 62 | 30 | 46· | ·90 | | |
| 27 | SE | 30·37 | 30·13 | 64 | 33 | 48·5 | — | | |
| 28 | E | 30·13 | 30·06 | 76 | 38 | 57· | — | | |
| 29 | SE | 30·10 | 30·06 | 78 | 40 | 59· | — | | |
| 30 | SE | 30·10 | 30·06 | 79 | 53 | 66· | ·56 | | |
| | | 30·41 | 29·54 | 79 | 24 | 49·65 | 2·44 | | ·90 |

Notes.—Fourth Mo. 1. Gloomy. 2. Cloudy. 3—9. Fine. 10. Cloudy, with slight showers. 11. Cloudy and fine. 12. Rainy. 13—15. Fine. 16. Cloudy and fine. 17. Showers of hail and rain during the day. 18. Rainy. 19—21. Cloudy. 22, 23. Cloudy: cold wind. 24. Hail-showers. 25. Fine. 26, 27. Hoar-frosts: fine. 28—30. Fine.

## RESULTS.

Winds: NE, 5; E, 2; SE, 5; SW, 8; W, 1; NW, 9.

| | | |
|---|---|---|
| Barometer: | Greatest height | 30·41 in. |
| | Least | 29·54 in. |
| | Mean | 30·013 in. |
| Thermometer: | Greatest height | 79° |
| | Least | 24° |
| | Mean | 49·65° |
| Evaporation | | 2·44 in. |
| Rain | | 0·90 in. |

### Pliny *on the* Rainbow.

*Pliny* says *(Nat. Hist.* Lib. 2. lx.) that the rainbow is not to be trusted as a prognostic either of showers or fair weather: that it is manifestly caused by the immission of the sun's rays into a hollow cloud, whence they are *refracted* back towards the sun—repulsâ acie in solem refringi—that the colours are due to the mixture of air and fire with the cloud: that it appears only opposite to the sun, only in a semicircle, and not by night. *Aristotle,* he says, pretends the contrary—that the bow *is* sometimes seen by night; which he observes (giving away his own rule) can only be when the moon is fourteen days old [or at full.] He adds, that the bow appears chiefly in autumn, while the days are shortening; that in spring, when they are lengthening, it is not seen; nor yet about the summer solstice; but frequently in winter, when the days are at the shortest: that when the sun is high, the rainbow is low, and vice versâ. He notices the different appearance of the segment in the east or west from that it puts on in the south; and affirms, that in summer, it is never seen at noon, though in autumn at all hours—yet never more than two at a time—I suppose the primary and complementary arcs.—L. H.

| 1827. | | Wind. | By Clock. | | Temp. | | Med. | Evap | Hygr. at 9 a. m. | Rain, &c. |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Max. | Min. | Max. | Min. | | | | |
| 5 mo. May | 1 | Var. | 30·09 | 30·05 | 74° | 47° | 60·5 | — | | |
| | 2 | E | 30·07 | 29·97 | 64 | 40 | 52· | — | | |
| | 3 | NW | 29·97 | 29·87 | 74 | 42 | 58· | — | | |
| | 4 | NW | 29·87 | 29·82 | 68 | 50 | 59· | — | | |
| | 5 | SW | 29·67 | 29·30 | 60 | 42 | 51· | — | | 40 |
| | 6 | SW | 29·70 | 29·12 | 60 | 43 | 51·5 | — | | 27 |
| | 7 | E | 29·91 | 29·70 | 58 | 30 | 44· | — | | |
| | 8 | E | 29·94 | 29·87 | 55 | 35 | 45· | — | | — |
| | 9 | NE | 29·87 | 29·83 | 54 | 36 | 45· | — | | |
| | 10 | E | 29·85 | 29·80 | 60 | 32 | 46· | — | | |
| | 11 | W | 30·17 | 29·85 | 64 | 34 | 49· | — | | |
| | 12 | SE | 30·18 | 30·00 | 62 | 36 | 49· | ·96 | | |
| | 13 | E | 30·00 | 29·88 | 63 | 42 | 52·5 | — | | |
| | 14 | N | 29·88 | 29·80 | 55 | 46 | 50·5 | — | | 12 |
| | 15 | NW | 29·81 | 29·63 | 64 | 43 | 53·5 | — | | |
| | 16 | E | 29·65 | 29·42 | 69 | 49 | 59· | — | | 11 |
| | 17 | S | 29·69 | 29·60 | 68 | 54 | 61· | — | | 37 |
| | 18 | SW | 29·97 | 29·69 | 70 | 50 | 60· | — | | |
| | 19 | Var. | 30·11 | 29·97 | 74 | 50 | 62· | — | | |
| | 20 | E | 30·19 | 30·10 | 78 | 43 | 60·5 | ·88 | | |
| | 21 | NW | 30·22 | 30·18 | 79 | 50 | 64·5 | — | | |
| | 22 | SW | 30·18 | 30·02 | 66 | 52 | 59· | — | | 6 |
| | 23 | SW | 30·02 | 29·43 | 72 | 51 | 61·5 | — | | 12 |
| | 24 | NW | 29·43 | 29·35 | 60 | 44 | 52· | — | | 15 |
| New M. | 25 | Var. | 29·47 | 29·37 | 62 | 44 | 53· | — | | 30 |
| | 26 | W | 29·62 | 29·47 | 65 | 46 | 55·5 | — | | 9 |
| | 27 | W | 29·75 | 29·62 | 61 | 52 | 56·5 | — | | 5 |
| | 28 | SW | 29·83 | 29·75 | 71 | 56 | 63·5 | — | | — |
| | 29 | SW | 29·92 | 29·80 | 64 | 50 | 57· | — | | 3 |
| | 30 | SW | 29·92 | 29·68 | 75 | 54 | 64·5 | — | | |
| | 31 | SW | 29·82 | 29·71 | 70 | 48 | 59· | ·96 | | |
| | | | 30·22 | 29·12 | 79 | 30 | 55·32 | 2·80 | | 2·07 |

Notes.—Fifth Mo. 1—3. Fine. 4. Cloudy. 5, 6. Rainy. 7. Fine. 8. Overcast: cold. 9. Cloudy and fine. 10—13. Fine. 14. Showery. 15. Fine. 16. Cloudy and fine. 17. Showery. 18—21. Fine. 22, 23. Showery. 24. Showery: some hail about noon. 25. Rainy. 26, 27. Showery. 28. Cloudy. 29. Showery. 30, 31. Fine.

## RESULTS.

Winds: N, 1; NE, 1; E, 7; SE, 1; S, 1; SW, 9; W, 3; NW, 5. Var. 3.

| | | |
|---|---|---|
| Barometer: | Greatest height | 30·22 in. |
| | Least | 29·12 in. |
| | Mean | 29·816 in. |
| Thermometer: | Greatest height | 79° |
| | Least | 30° |
| | Mean | 55·32° |
| Evaporation | | 2·80 in. |
| Rain | | 2·07 in. |

*Extraordinary fall of Rain.*

The valley in which the Leman Lake is situate was exposed, on the 20th May, 1827, to a fall of rain, to which neither the records of the country, nor the memory of the inhabitants, affords a parallel. It had been wet and changeable through the month, with the wind at SW. The 20th presented a temperature (18° R.) which was pretty high for the season, the barometer being about 26 in. 10 lines Fr. The clouds gathered in the afternoon, and the rain commenced about five: it was a shower of three hours continuance, uninterrupted, mixed with rain and thunder, the latter rather violent. The quantity which fell is difficult to estimate, the largest guages having overflowed; but, from those casual observations which seem the most entitled to confidence, it must have amounted to six inches. The mass of the shower extended from Vevay, at the eastern extremity of the lake to the Jura, near Geneva. Vevay, Aubonne on the side of the Valais, Evian on that next Savoy, Geneva, and the precincts east of the city, were the parts ravaged by the storm. The proprietors of dwellings on the borders of the lake, and on the Rhone, unprepared to expect a visitation such as is common only within the tropics, sustained great damage. In general, the vapours tend to condense on the high summits, the Italian Alps, the mountains of Chablay and Faucigny, and the chain of the Jura: the damage done by such rains, and by the melting of the snow or ices, has been comparatively unimportant. The wind was not violent, nor did the barometer fall one line. There was, on the same day, an abundant rain at several places in the heart of Switzerland and in France: the Garonne overflowed, and did much damage at Thoulouse.—*Bibl. Universelle,* Mai, 1827.

| 1827. | Wind. | By Clock. | | Temp. | | Med. | Evap | Hygr. at 9 a. m. | Rain, &c. |
|---|---|---|---|---|---|---|---|---|---|
| | | Max. | Min. | Max. | Min. | | | | |
| 6 mo. June 1 | SW | 29·84 | 29·65 | 67° | 48° | 57·5 | — | | 5 |
| 2 | SW | 29·90 | 29·60 | 64 | 44 | 54· | — | | 6 |
| 3 | NW | 29·98 | 29·90 | 66 | 46 | 56· | — | | — |
| 4 | NW | 30·03 | 29·80 | 68 | 52 | 60· | — | | — |
| 5 | SW | 29·80 | 29·60 | 67 | 50 | 58·5 | — | | 8 |
| 6 | NW | 30·04 | 29·75 | 62 | 42 | 52· | — | | 2 |
| 7 | NW | 30·29 | 30·04 | 64 | 36 | 50· | — | | 1 |
| 8 | NW | 30·40 | 30·29 | 78 | 40 | 59· | ·92 | | |
| 9 | NE | 30·40 | 30·38 | 79 | 41 | 60· | — | | |
| 10 | NE | 30·37 | 30·26 | 80 | 43 | 61·5 | — | | |
| 11 | NE | 30·25 | 30·19 | 77 | 44 | 60·5 | — | | |
| 12 | NE | 30·21 | 30·14 | 78 | 48 | 63· | — | | |
| 13 | NE | 30·14 | 29·90 | 79 | 49 | 64· | — | | |
| 14 | NE | 29·90 | 29·80 | 78 | 43 | 60·5 | ·95 | | |
| 15 | E | 29·80 | 29·77 | 79 | 56 | 67·5 | — | | |
| 16 | SW | 29·97 | 29·77 | 78 | 56 | 67· | — | | |
| 17 | NW | 30·03 | 29·87 | 77 | 58 | 67·5 | — | | |
| 18 | W | 30·02 | 29·96 | 78 | 54 | 66· | — | | — |
| 19 | NW | 29·96 | 29·86 | 72 | 52 | 61· | — | | |
| 20 | NW | 29·95 | 29·90 | 73 | 46 | 59·5 | — | | — |
| 21 | SW | 30·10 | 29·95 | 72 | 46 | 59· | — | | 11 |
| 22 | NW | 30·17 | 30·10 | 68 | 44 | 56· | — | | — |
| 23 | NW | 30·19 | 30·17 | 69 | 43 | 56· | ·98 | | |
| New M. 24 | NW | 30·18 | 30·16 | 73 | 53 | 63· | — | | |
| 25 | SE | 30·16 | 30·10 | 77 | 45 | 61· | — | | |
| 26 | SW | 30·10 | 29·95 | 78 | 55 | 66·5 | — | | |
| 27 | SW | 29·95 | 29·67 | 72 | 58 | 65· | — | | 13 |
| 28 | SW | 29·72 | 29·64 | 72 | 58 | 65· | — | | 23 |
| 29 | SW | 29·86 | 29·72 | 77 | 55 | 66· | — | | — |
| 30 | SW | 29·94 | 29·80 | 76 | 54 | 65· | ·89 | | 6 |
| | | 30·40 | 29·60 | 80 | 36 | 60·91 | 3·74 | | ·75 |

Notes.—Six Mo. 1—3. Showery. 4—6. Cloudy, with showers. 7. Fine, with a shower at six p. m. 8—14. Fine. 15, 16. Cloudy. 17, 20. Fine. 21. Cloudy: a heavy shower at two. 22. Showery. 23—26. Fine. 27. Cloudy. 28. Rainy. 29. Cloudy and fine. 30. Cloudy.

## RESULTS.

Winds: NE, 6; E, 1; SE, 1; SW, 10; W, 1; NW, 11.

| | | |
|---|---|---|
| Barometer: | Greatest height | 30·40 in. |
| | Least | 29·60 in. |
| | Mean | 29·989 in. |
| Thermometer: | Greatest height | 80° |
| | Least | 36° |
| | Mean | 60·91° |
| Evaporation | | 3·74 in. |
| Rain | | 0·75 in. |

All the country papers, both English and Irish, which reached us yesterday, speak in the most gratifying terms of the appearance of the hay-harvest, which is everywhere most excellent. The country has not been blessed with such abundant crops for many years.—*June* 23.

Bishop Berkeley has observed, and with great truth, that fields, groves, and meadows are no where in such perfection as in England; and it is a remark of Charles II., that a gentleman may walk out oftener, and with much greater comfort in England, than in any other country of Europe.—*P. L.*

Scotland.—The weather is still delightful in the highest degree, and the common remark among farmers is, "if we had been favoured with a season of our own choosing, we could not possibly have wished for a better." Around this [place] the wheat is already in ear. The stalks are beautiful, and the only misfortune is, that there are too few of them. The oats will undoubtedly be a mighty crop, and are longer in June, 1827, than they were in August, 1826. Nearly the same thing may be said of barley. Hay-harvest has partially commenced at Castle Dykes, and one or two other places, and will be pretty general in a week or so.—*Dumfries Courier. P. L. June* 25.

### A Black Squall.

"The most tremendous squall we have yet encountered has just swept by. It came raging so suddenly upon us, that the captain had time only to exclaim: 'All hands on deck—hand the royals and the top-gallant sails too—clew up the mainsail—mind your helm, quick, quick!' before the wind struck us full broadside, and instantly laid the ship almost on her beam ends. Every thing cracked in her struggle against the blast—she shot forward like a race-horse, with her gunwhale in the water, and the waves on her lee, towering yard-arm high. All the furniture was capsized, and those below rushed upon deck; but the halliards being all let go, and the helm seized by an experienced hand, the ship was got before the wind and somewhat eased, till the violence of the gust gave place to torrents of rain, accompanied by lightning and thunder." South latitude, 34°.—*Journal of a Voyage to the Sandwich Islands.* This seems to have been a specimen of the true *Ecnephias,* or squall from the approach of a charged cloud.

| 1827. | Wind. | By Clock. | | Temp. | | Med. | Evap | Hygr. at 9 a. m. | Rain, &c. |
|---|---|---|---|---|---|---|---|---|---|
| | | Max. | Min. | Max. | Min. | | | | |
| 7 mo. July 1 | SW | 29·95 | 29·76 | 78° | 55° | 66·5 | — | | 20 |
| 2 | SW | 29·95 | 29·82 | 74 | 53 | 63·5 | — | | 13 |
| 3 | NW | 30·26 | 29·94 | 73 | 50 | 61·5 | — | | |
| 4 | W | 30·37 | 30·20 | 78 | 59 | 68·5 | — | | 9 |
| 5 | NE | 30·53 | 30·37 | 75 | 44 | 59·5 | — | | |
| 6 | SW | 30·53 | 29·95 | 88 | 50 | 69· | — | | |
| 7 | NW | 30·57 | 30·53 | 85 | 56 | 70·5 | ·95 | | |
| 8 | NW | 30·46 | 30·30 | 87 | 55 | 71· | — | | |
| 9 | NW | 30·30 | 30·10 | 84 | 55 | 69·5 | — | | |
| 10 | W | 30·21 | 30·10 | 81 | 56 | 68·5 | — | | |
| 11 | NW | 30·15 | 30·11 | 84 | 46 | 65· | — | | |
| 12 | N | 30·22 | 30·21 | 84 | 48 | 66· | ·98 | | |
| 13 | E | 30·27 | 30·23 | 84 | 43 | 63·5 | — | | |
| 14 | SE | 30·23 | 30·16 | 77 | 43 | 60· | — | | |
| 15 | SE | 30·10 | 30·06 | 80 | 52 | 66· | — | | |
| 16 | SE | 30·09 | 30·08 | 80 | 46 | 63· | — | | |
| 17 | W | 30·10 | 30·06 | 83 | 57 | 70· | ·94 | | |
| 18 | SW | 30·04 | 30·02 | 78 | 54 | 60· | — | | — |
| 19 | SW | 30·10 | 29·78 | 70 | 60 | 65· | — | | 45 |
| 20 | NW | 29·88 | 29·71 | 72 | 50 | 61· | — | | |
| 21 | NW | 30·19 | 29·89 | 73 | 48 | 60·5 | — | | — |
| 22 | SW | 30·10 | 30·00 | 67 | 57 | 62· | — | | 15 |
| 23 | SW | 30·13 | 30·00 | 78 | 60 | 69·5 | — | | |
| New M. 24 | NW | 30·13 | 30·05 | 76 | 58 | 67· | — | | |
| 25 | SW | 30·12 | 30·02 | 77 | 49 | 63· | — | | |
| 26 | W | 30·18 | 29·91 | 77 | 53 | 65· | ·97 | | 33 |
| 27 | NW | 30·22 | 29·93 | 79 | 66 | 72·5 | — | | |
| 28 | NW | 30·27 | 30·22 | 82 | 54 | 68· | — | | |
| 29 | E | 30·27 | 29·95 | 87 | 64 | 75·5 | — | | 2 |
| 30 | W | 30·16 | 29·79 | 80 | 52 | 66· | — | | |
| 31 | Var. | 30·30 | 30·17 | 75 | 50 | 62·5 | ·86 | | |
| | | 30·57 | 29·71 | 88 | 43 | 65·97 | 4·70 | | 1·37 |

NOTES.—Seventh Mo. 1. Cloudy. 2. Rainy morning. 3. Fine. 4. Showers. 5—15. Fine. 16. Cloudy and fine. 17. Fine. 18. Cloudy. 19. Cloudy: showers. 20. Cloudy: fine. 21. Cloudy. 22. Rainy. 23—27. Cloudy. 28. Fine. 29. Sultry. 30. A thunder-storm at four a. m.: windy. 31. Cloudy.

## RESULTS.

Winds: N, 1; NE, 1; E, 2; SE, 3; SW, 8; W, 5; NW, 10; Var. 1.

| | | |
|---|---|---|
| Barometer: | Greatest height | 30·57 in. |
| | Least | 29·71 in. |
| | Mean | 30·126 in. |
| Thermometer: | Greatest height | 88° |
| | Least | 43° |
| | Mean | 65·97° |
| Evaporation | | 4·70 in. |
| Rain | | 1·37 in. |
| And in a second guage | | 1·36 in. |

### A White Squall.

"The Pandora, 18, Captain Jervoise, for the East Indies, put into Port Praya, St. Jago, to get water, on the 6th of January. Being heavily laden with stores, she made rather a bad passage. On the 14th of December the ship *was caught in a white squall*, which laid her down and filled the waist with water; when the gunner, with great presence of mind, cut away the fore-sheet, and let fly the main and mizen top-sail sheets, and she righted. On the 19th of December, in latitude 46° 51′ N, and longitude 8° 47′ W, she experienced a dreadful gale from SW. From three till eleven p. m. their fate was doubtful; but on cutting away two anchors from the bows, and throwing two guns overboard, the ship was relieved."—*P. L. May* 8, 1826.

Here we have the like violent wind as in the black squall, but *without a cloud;* and the sudden falling of a vessel into such a stream, or the being overtaken by it, is more difficult to account for, on any definite principle, than in the other case: perhaps it is the mere effect of the pressure of currents of air interfering with each other. We see that she was yet four days from stormy weather, the approach of which squalls are said to indicate.

*Inverness, July* 11.—Monday last, and part of yesterday, this quarter of the country was visited by a hurricane, which in some instances was attended with serious damage. Extraordinary as it may appear, it is nevertheless true, that a field of turnips at Petty, consisting of about sixteen acres, was entirely destroyed. The surface had been thoroughly dried up by the previous warm weather, *and the whole of it, with the young turnip plants, was literally blown away.* From part of the moss-ground on Janefield, near Nairn, which was in the process of burning, particles of fire were driven to the neighbouring field, the whole were shortly ignited, and a fine field of oats was in much risk of being consumed. The alarm was, however, speedily given in and about Nairn, when a great number turned out, and rendered prompt and effectual assistance in extinguishing the fire.—*Inverness Journal.*

| 1827. | Wind. | By Clock. | | Temp. | | Med. | Evap | Hygr. at 9 a.m. | Rain, &c. |
|---|---|---|---|---|---|---|---|---|---|
| | | Max. | Min. | Max. | Min. | | | | |
| 8 mo. Aug. 1 | SW | 30·25 | 30·05 | 81° | 45° | 63· | — | | |
| 2 | SE | 30·05 | 29·80 | 89 | 61 | 75· | — | | |
| 3 | SW | 29·80 | 29·66 | 81 | 59 | 70· | — | | 21 |
| 4 | SW | 30·00 | 29·66 | 78 | 54 | 66· | — | | — |
| 5 | NE | 30·29 | 30·00 | 74 | 56 | 65· | — | | 14 |
| 6 | E | 30·40 | 30·29 | 71 | 46 | 58·5 | ·89 | | |
| 7 | SE | 30·40 | 30·26 | 77 | 41 | 59· | — | | |
| 8 | SE | 30·26 | 30·10 | 81 | 44 | 62·5 | — | | |
| 9 | NE | 30·10 | 29·90 | 78 | 56 | 67· | — | | — |
| 10 | SW | 29·90 | 29·59 | 76 | 52 | 64· | — | | 14 |
| 11 | NW | 29·65 | 29·59 | 72 | 50 | 61· | ·90 | | 48 |
| 12 | NW | 29·94 | 29·63 | 67 | 46 | 56·5 | — | | |
| 13 | NW | 29·95 | 29·71 | 68 | 49 | 58·5 | — | | 21 |
| 14 | SW | 29·71 | 29·45 | 72 | 46 | 59· | — | | 4 |
| 15 | SW | 29·45 | 29·32 | 74 | 54 | 64· | — | | — |
| 16 | SE | 29·70 | 29·40 | 71 | 51 | 61· | — | | 20 |
| 17 | NE | 30·00 | 29·70 | 80 | 54 | 67· | — | | 45 |
| 18 | NE | 30·10 | 30·00 | 76 | 52 | 64· | — | | |
| 19 | NE | 30·10 | 30·04 | 73 | 50 | 61·5 | ·94 | | |
| 20 | NW | 30·10 | 30·07 | 72 | 50 | 61· | — | | |
| 21 | NE | 30·20 | 30·09 | 76 | 50 | 63· | — | | — |
| New M. 22 | NW | 30·36 | 30·10 | 67 | 52 | 59·5 | — | | — |
| 23 | NW | 30·40 | 30·34 | 74 | 52 | 63· | — | | |
| 24 | NW | 30·34 | 30·12 | 73 | 48 | 60·5 | — | | |
| 25 | NW | 30·24 | 30·12 | 64 | 47 | 55·5 | — | | 7 |
| 26 | NW | 30·33 | 30·20 | 64 | 44 | 54· | — | | 4 |
| 27 | NW | 30·57 | 30·33 | 64 | 53 | 58·5 | — | | |
| 28 | NW | 30·43 | 30·33 | 72 | 41 | 56·5 | ·90 | | |
| 29 | NW | 30·47 | 30·40 | 72 | 47 | 59·5 | — | | |
| 30 | NW | 30·40 | 30·20 | 65 | 42 | 53·5 | — | | |
| 31 | NE | 30·43 | 30·25 | 73 | 41 | 57· | ·30 | | 1 |
| | | 30·57 | 29·32 | 89 | 41 | 61·43 | 3·93 | | 1·99 |

Notes.—Eight Mo. 1, 2. Sultry. 3. Rain during the night. 4. Showers. 5—9. Fine. 10. A thunder-storm at noon: heavy shower. 11. Showery, with thunder. 12—15. Cloudy. 16. Showery. 17. A thunder-storm at 3 p. m. showery. 18—20. Fine. 21. Cloudy, with showers. 22. Cloudy. 23. Fine. 24. Cloudy. 25, 26. Showers. 27. Cloudy and fine. 28, 29. Fine. 30, 31. Cloudy.

# RESULTS.

Winds: NE, 7; E, 1; SE, 4; SW, 6; NW, 13.

| | | |
|---|---|---|
| Barometer: | Greatest height | 30·57 in. |
| | Least | 29·32 in. |
| | Mean | 30·081 in. |
| Thermometer: | Greatest height | 89° |
| | Least | 41° |
| | Mean | 61·43° |
| Evaporation | | 3·93 in. |
| Rain | | 1·99 in. |

## Heat in France.

Letters from Nantes, dated the 2d instant, represent the heat experienced in that part of the country to be excessive, and without parallel in the annals of meteorology. On the 29th of July, Reaumur's thermometer stood at 32½° or 105° of Fahrenheit. This extraordinary observation, it is added, was made with a correct thermometer, exposed to the north, seventy feet from the ground, and entirely out of the influence of the solar rays. At Rochelle the heat was still greater: on the 28th, at two o'clock p. m. Reaumur's thermometer indicated 30°; and on the 29th, at the same hour, was at the almost incredible height of 35°, equal to 110¾° of Fahrenheit! These tremendous heats, as might have been expected, have burnt up and destroyed the vines, the grass, and a large quantity of wall fruit.—*P. L. Aug.* 11.

On Saturday evening [11th,] the inhabitants of Wanstead Flats, in Essex, and its vicinity, were thrown into great consternation by one of the most violent thunder-storms that has occurred within the memory of the oldest inhabitants. It commenced about six o'clock, and raged with the greatest violence until near seven. One man, named Scales, a blacksmith, was struck by the lightning, and knocked down; after some time, however, he recovered the shock, and sustained no injury other than that produced by extreme fright. Two large trees were literally shivered to atoms.—*Aug.* 14.

*Yorkshire.*—We doubt if there was ever, in the memory of man, so much corn secured in Yorkshire, in the same time, as has been housed during the present week. Some injury has doubtless been sustained from the rain, both by the standing grain and that which was cut; and last Tuesday [21st] in the forenoon, the prospect for the harvest seemed so gloomy that wheat advanced in the Leeds market from three to four shillings a quarter, partly from exaggerated rumours of sprouted corn. In the afternoon of that day, the weather answering to the barometer, which had been gradually rising for the four preceding days, cleared up, and since that time to the present we have had scarcely a drop of rain. The harvest-moon came in very auspiciously on Wednesday, and Thursday was one of the most glorious days we ever beheld. We have no hesitation in saying, that the timely change in the weather has added millions of pounds sterling to the real wealth of the country.—*Leeds Mercury.*

| 1827. | | Wind. | By Clock. | | Temp. | | Med. | Evap | Hygr. at 9 a. m. | Rain, &c. |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Max. | Min. | Max. | Min. | | | | |
| 9 mo. Sept. | 1 | E | 30·44 | 30·40 | 74° | 44° | 59· | — | | |
| | 2 | SE | 30·42 | 30·35 | 75 | 45 | 60· | — | | |
| | 3 | NE | 30·40 | 30·45 | 75 | 45 | 60· | — | | |
| | 4 | NE | 30·40 | 30·31 | 64 | 44 | 54· | — | | |
| | 5 | NE | 30·35 | 30·28 | 73 | 45 | 59· | — | | |
| | 6 | NE | 30·38 | 30·35 | 74 | 43 | 58·5 | — | | |
| | 7 | NE | 30·35 | 30·30 | 68 | 43 | 55·5 | — | | |
| | 8 | NE | 30·33 | 30·10 | 69 | 54 | 61·5 | — | | |
| | 9 | S | 30·10 | 29·90 | 73 | 53 | 63· | — | | 84 |
| | 10 | SW | 29·93 | 29·90 | 74 | 55 | 64·5 | — | | 3 |
| | 11 | SW | 29·90 | 29·75 | 74 | 57 | 65·5 | ·97 | | 11 |
| | 12 | SW | 29·84 | 29·73 | 59 | 52 | 55·5 | — | | 23 |
| | 13 | NW | 30·24 | 29·84 | 64 | 47 | 55·5 | — | | 5 |
| | 14 | SW | 30·29 | 30·24 | 69 | 49 | 59· | — | | |
| | 15 | SW | 30·35 | 30·28 | 69 | 55 | 62· | — | | |
| | 16 | NE | 30·37 | 30·35 | 74 | 56 | 65· | — | | |
| | 17 | NE | 30·40 | 30·33 | 74 | 54 | 64· | — | | |
| | 18 | S | 30·33 | 30·20 | 71 | 48 | 59·5 | — | | 15 |
| | 19 | NW | 30·25 | 30·00 | 60 | 45 | 52·5 | — | | 30 |
| | 20 | NE | 30·00 | 29·80 | 60 | 44 | 52· | — | | 1 |
| New. M. | 21 | S | 29·93 | 29·63 | 76 | 54 | 60·5 | — | | — |
| | 22 | SW | 29·63 | 29·50 | 72 | 45 | 58·5 | ·95 | | 20 |
| | 23 | SW | 29·68 | 29·50 | 67 | 44 | 55·5 | — | | 35 |
| | 24 | S | 29·74 | 29·68 | 67 | 47 | 57· | — | | 10 |
| | 25 | SW | 29·73 | 29·68 | 68 | 48 | 58· | — | | 49 |
| | 26 | S | 29·62 | 29·58 | 72 | 57 | 64·5 | — | | |
| | 27 | SE | 29·77 | 29·57 | 72 | 49 | 60·5 | — | | |
| | 28 | S | 29·78 | 29·52 | 67 | 47 | 57· | — | | |
| | 29 | SE | 29·78 | 29·68 | 63 | 46 | 54·5 | — | | 40 |
| | 30 | SE | 29·82 | 29·78 | 69 | 51 | 60· | ·48 | | |
| | | | 30·44 | 29·50 | 75 | 43 | 59·05 | 2·40 | | 3·26 |

NOTES.—Ninth Mo. 1. Cloudy and fine. 2—8. Fine. 9. Cloudy: rain began at seven p. m. 10. Showery. 11. Cloudy. 12. Rainy. 13. Showery. 14—17. Fine. 18. Rainy evening. 19. Fine. 20. Cloudy. 21, 22. Fine. 23, 24. Showery. 25. Fine. [Aurora borealis, *Gosport* Reg.] 26. Morning fine: evening wet. 27, 28. Fine. 29. Rainy. 30. Fine.

## RESULTS.

Winds: NE, 9; E, 1; SE, 4; S, 6; SW, 8; NW, 2.

| | | |
|---|---|---|
| Barometer: | Greatest height | 30·44 in. |
| | Least | 29·50 in. |
| | Mean | 30·002 in. |
| Thermometer: | Greatest height | 75° |
| | Least | 43° |
| | Mean | 59·05° |
| Evaporation | | 2·40 in. |
| Rain | | 3·26 in. |

On Wednesday morning, [13th,] about half-past six o'clock, Chichester was visited by a heavy storm of rain, accompanied by thunder and lightning. The Pailant Church was struck by the lightning, which entered from the wooden steeple, tearing the wood into splinters, and scattering the slates and tiles in all directions. So sudden and tremendous was the shock, that several persons in the streets (it being market morning) appeared as if stunned; and to those of the inhabitants who were in bed, and did not see the ligthning, it sounded like some tremendous explosion.—*Sept.* 19.

Aurora Borealis.—On Tuesday night [25th] this metropolis was surprised at about 11 o'clock, by a splendid display of northern lights. The last which we beheld in London were in the autumn of 1804, about the end of September or the beginning of October. The spectacle, then, was truly magnificent. On Tuesday night we did not witness the beginning of the phenomenon, but we understand that the northern parts of the heavens displayed, about eleven o'clock, so ruddy a blaze, as to appear like the reflection of a mighty conflagration. When we observed the sky an hour later, we found that the red hue was gone, but the whole horizon, from the north to the east, was lined with a thin cloud, or condensed mist, from which waves of snowy light rolled, or sudden rays flashed up, and as suddenly vanished, to appear in a different part. A few clouds, broken into fantastic shapes, slowly floated, or rather were suspended in the north-east portion of the heavens, but evidently lower than the region of the fluid; for they remained dark while it spread and brightened above them. The rest of the sky was clear, and the piercing lustre of the stars flashed vividly through the snowy veil, which the sportive and ever-shifting light flung and unrolled beneath them.—*P. L. Sept.* 27.

Aurora Borealis in America.—It is rather a curious coincidence that this phenomenon was observed at the commencement of the last month in the United States. It was observed by many persons here, from ten to eleven o'clock, and was noticed also in Baltimore. The whole northern portion of the heavens was filled with this singular light, which shot its silver streams sometimes vividly, high up towards the zenith, and then became blended in a general mass of mild light.—*Boston American Statesman. P. L. Oct.* 5.

| 1827. | Wind. | By Clock. | | Temp. | | Med. | Evap | Hygr. at 9 a. m. | Rain, &c. |
|---|---|---|---|---|---|---|---|---|---|
| | | Max. | Min. | Max. | Min. | | | | |
| 10 mo. Oct. 1 | SE | 29·91 | 29·82 | 68° | 51° | 59·5 | — | | 8 |
| 2 | SE | 30·22 | 29·91 | 67 | 46 | 56·5 | — | | |
| 3 | SE | 30·40 | 30·22 | 64 | 44 | 54· | — | | |
| 4 | NW | 30·47 | 30·40 | 67 | 44 | 55·5 | — | | |
| 5 | NE | 30·47 | 30·30 | 70 | 42 | 56· | — | | |
| 6 | NE | 30·30 | 30·03 | 67 | 37 | 52· | — | | |
| 7 | SE | 30·03 | 29·77 | 64 | 39 | 51·5 | — | | |
| 8 | S | 29·77 | 29·35 | 65 | 49 | 57· | — | | 27 |
| 9 | S | 29·35 | 29·22 | 63 | 49 | 56· | — | | 46 |
| 10 | SE | 29·40 | 28·88 | 58 | 47 | 52·5 | — | | 93 |
| 11 | S | 29·25 | 29·20 | 57 | 46 | 51·5 | — | | 15 |
| 12 | W | 29·54 | 29·25 | 59 | 32 | 45·5 | — | | |
| 13 | NW | 29·70 | 29·48 | 65 | 46 | 55·5 | — | | |
| 14 | NW | 29·95 | 29·70 | 56 | 48 | 52· | — | | |
| 15 | SW | 29·99 | 29·95 | 64 | 56 | 60· | — | | |
| 16 | SW | 30·00 | 29·92 | 63 | 48 | 55·5 | — | | |
| 17 | SE | 29·92 | 29·82 | 62 | 47 | 54·5 | ·97 | | |
| 18 | E | 29·80 | 29·76 | 65 | 48 | 56·5 | — | | |
| 19 | E | 29·80 | 29·76 | 63 | 46 | 54·5 | — | | 84 |
| New M. 20 | NW | 29·77 | 29·61 | 63 | 44 | 53·5 | — | | 2 |
| 21 | SE | 29·61 | 29·38 | 59 | 50 | 54·5 | — | | 7 |
| 22 | SE | 29·38 | 29·07 | 63 | 52 | 57·5 | — | | 51 |
| 23 | SW | 29·55 | 29·10 | 62 | 44 | 53· | — | | 4 |
| 24 | NW | 30·10 | 29·55 | 58 | 48 | 53· | — | | 3 |
| 25 | SE | 30·16 | 30·10 | 60 | 51 | 55·5 | — | | 8 |
| 26 | SE | 30·17 | 29·78 | 62 | 48 | 55· | — | | |
| 27 | SE | 29·78 | 29·35 | 62 | 52 | 57· | — | | 30 |
| 28 | NE | 29·95 | 29·35 | 48 | 32 | 40· | — | | 69 |
| 29 | N | 30·00 | 29·35 | 63 | 34 | 48·5 | — | | |
| 30 | NW | 30·00 | 29·70 | 50 | 49 | 49·5 | — | | |
| 31 | NW | 30·02 | 29·69 | 53 | 34 | 43·5 | ·44 | | 2 |
| | | 30·47 | 28·88 | 70 | 32 | 53·43 | 1·41 | | 4·49 |

Notes. 1. Cloudy with rain. 2, 3. Cloudy. 4. Cloudy and fine. 5—7. Fine. 8. Fine: cloudy: rain in the night. 9, 10. Rainy. 11. A thunder-storm about one a. m.: showery, p. m. 12. Cloudy. 13—15. Fine. 16. Cloudy. 17, 18. Fine. 19. Rainy morning. 20. Cloudy. 21. Fine: cloudy. 22. Rainy. 23. Cloudy and fine. 24—26. Cloudy. 27. Fine day: rainy night. 28. Rainy. 29. Fine. 30. Cloudy. 31. Fine.

## RESULTS.

Winds: N, 1; NE, 3; E, 2; SE, 11; S, 3; SW, 3; W, 1; NW, 7.

| | | |
|---|---|---|
| Barometer: | Greatest height | 30·47 in. |
| | Least | 28·88 in. |
| | Mean | 29·766 in. |
| Thermometer: | Greatest height | 70° |
| | Least | 32° |
| | Mean | 53·43° |
| Evaporation | | 1·41 in. |
| Rain | | 4·49 in. |

[In this month, in which there fell near four inches and a half of rain, the *South-east* wind will be found preceding or accompanying the larger depositions of water, and the *North-east* succeeding them.—L. H.]

Dense Fog.—Between one and two o'clock yesterday morning, the metropolis was clouded by a deeply intense vapour, or fog, which in a short time increased so much, as to involve every object in impenetrable obscurity. The fog commenced with a suffocating thickness similar to the sudden bursting or rolling of smoke from a conflagration, and then rapidly unfolding, shrouded every thing, as in the thickest night. The coachmen and passengers of the night describe the darkness as appalling. Some of the western coaches were delayed two hours beyond their time.—*P. L. Oct.* 3.

*Whitby, Oct.* 11.—During the whole of yesterday it blew a strong gale from NNW to ENE, and thick with rain.

*Falmouth, Oct.* 11.—Wind WSW to W.—*P. L.*

During the night of Wednesday, [10th,] an immense quantity of rain fell in this neighbourhood; the rivers Don and Sheaf were swollen almost beyond precedent. Considerable damage must have been occasioned along the banks of these rivers by such an unexpected flood.—*Sheffield Independent, Oct.* 16.

Between twelve and one o'clock yesterday morning, [11th,] the rain, which had fallen heavily all day, poured suddenly down in redoubled torrents, with all the impetuosity of a tropical deluge. The wind rose to a hurricane, and roared so loud, that the peals of thunder with which it was accompanied, were only distinguishable on account of the vivid flashes of lightning which preceded them. The storm came from the south, and must, we fear, have done some damage to the shipping, if it extended to the coast. At half-past one o'clock its fury abated with the exception of the wind, which continued to blow with violence. Some of the shocks were so violent, that the doors of many houses were burst open, and considerable damage done. A house opposite Hanbury's brewhouse, in Brick-lane, Spitalfields, was struck by the lightning, but no other injury was done than breaking about twelve panes of glass, and slightly damaging the upper part of the house.—*P. L. Oct.* 12.

The Thames.—Yesterday the river, above-bridge, presented a very unusual appearance—at two o'clock the tide being lower than was perhaps ever remembered; and such was the state of the river at this time, that it was impossible

for a loaded barge to pass downward between Westminster and Waterloo Bridges. The cause of this was partly the south-west gale of the previous night, and partly the opening of the two new arches at London Bridge, ever since which the tide has fallen considerable above-bridge. The persons connected with the river, enquire "What method will be adopted to keep a sufficiency of *back water* above-bridge for the purposes of navigation, when the *lock* at London Bridge is removed?"—*Oct.* 12.

The weather has been very stormy during the past week. It has rained for several days almost incessantly, and the mountain streams are in consequence much swollen. The river Nairn is, by the country people, alleged to be higher than it has been for the last sixty years; it has carried away several wooden bridges erected over it.—*Inverness Journal. P. L. Oct.* 17.

We do not remember to have ever witnessed so long a continuance of rain as has been experienced in this neighbourhood since our last. It began to fall on Friday afternoon, [19th,] and continued, with little intermission, till noon on Tuesday; since which time we have had occasional showers, down to last night, when a considerable quantity of rain again fell. A rise of the mercury now cheers us with a hope of more settled weather.—*Durham Advertiser.*

*Aberdeen, Oct.* 27.—A most violent gale was experienced on Monday and Tuesday, [22d and 23d,] from ESE and E, and a tremendous sea on the coast.

Owing to the late heavy rains most of the meadows in this part of the country are under water.—*Hants Advertiser.*

The weather still continues so rainy and boisterous in the north, that little or no progress has been made, for the last fourteen days, in harvesting that portion of the crop which has been exposed to it. This, we may say, is the only favourable day we have enjoyed for a great length of time, yet still the atmosphere is damp and chill, and threatens more rain.—*Inverness Courier, Oct.* 30.

### Earthquakes felt at Sea.

It is of great importance to mariners to be made acquainted with the [marks] of natural phenomena, that they may not be deceived by any which would seem to indicate causes of a totally different kind to what they are led to infer in cases of apparent danger. This remark is particularly exemplified in the following account of a natural, but not very common occurrence, which took place on a voyage from Madeira to Honduras, in 1825. "In running through among the islands," says the narrator, "we were in dread of every schooner-rigged vessel we saw, as these seas swarmed with pirates. Nothing, however, occurred worthy of note, till we were off the island of Ruatan. Between seven and eight o'clock p. m. the night being quite dark, we were alarmed by a rumbling noise, as if the vessel had been running over a reef of rocks. Every one rushed upon deck, and all cast a wistful look over the side of the vessel, expecting every moment to see her go down. The pumps were sounded, but there was no water in the well. We then concluded that the vessel had come in contact with a large log of timber; but on arriving at Belize, we ascertained that it was the effect of a smart shock of an earthquake, which had been experienced there at the very time we felt the concussion."—*P. L.*

### *The Bust hid in the block of marble.*

Speaking of some head, or profile, found among the figures on the marble in a quarry, *Quintus Cicero* says, "Fingebat Carneades in

Chiorum lapidicinis saxo discisso caput extitisse Panisci." To which his brother replies: "Quare non poterit id evenire casu et non in omni marmore necesse sit inesse vel Praxitelia capita? Quid—*in nubibus nunquam animadvertisti leonis formam, aut hippocentauri.*"—*De Divin.* Lib ii. 13. 21. He attached little to this natural portrait, of which so much was made by the augurs; and thought that a lively imagination, or what we call invention, supplied the likeness; just as we figure to ourselves lions and other strange beasts in the growing clouds.* In which way an artist, capable of the work, might certainly *find* a perfect bust in any block of marble he should pitch upon; and, as Addison (I think) has the simile, "*Fetch it out,* by the education of the chisel, chipping away the outside, as the school-master does our untaught rudeness!"

* There are persons yet living, I believe, who can remember what was done in London by the last generation, in this way, with a certain *Miraculous onyx stone*, of which a plate with a description is extant to this day.

| 1826. | Wind. | By Clock. | | Temp. | | Med. | Evap | Hygr. at 9 a. m. | Rain, &c. |
|---|---|---|---|---|---|---|---|---|---|
| | | Max. | Min. | Max. | Min. | | | | |
| 3 mo. Nov. 1 | NW | 30·08 | 29.78 | 52° | 45° | 48·5 | — | | 3 |
| 2 | NW | 30·18 | 29·80 | 51 | 34 | 42·5 | — | | |
| 3 | W | 30·23 | 29·17 | 53 | 43 | 48· | — | | |
| 4 | W | 30·40 | 29·23 | 54 | 45 | 49·5 | — | | |
| 5 | W | 30·43 | 30·36 | 56 | 43 | 49·5 | — | | 4 |
| 6 | NW | 30·36 | 30·23 | 53 | 48 | 50·5 | — | | |
| 7 | NE | 30·23 | 30·15 | 53 | 42 | 47·5 | — | | 3 |
| 8 | N | 30·15 | 29·90 | 48 | 44 | 46· | — | | |
| 9 | SE | 29·90 | 29·80 | 49 | 43 | 46· | — | | 2 |
| 10 | NW | 30·03 | 29·97 | 53 | 47 | 50· | — | | — |
| 11 | NW | 30·20 | 29·96 | 57 | 32 | 44·5 | — | | |
| 12 | NW | 30·21 | 30·17 | 58 | 43 | 50·5 | — | | |
| 13 | NW | 30·19 | 30·14 | 60 | 48 | 54· | — | | |
| 14 | E | 30·14 | 29·80 | 57 | 33 | 45· | — | | 14 |
| 15 | SW | 29·80 | 29·45 | 48 | 36 | 42· | — | | 18 |
| 16 | SE | 29·52 | 29·44 | 47 | 33 | 40· | — | | 3 |
| 17 | SE | 29·92 | 29·52 | 53 | 35 | 44· | — | | 12 |
| 18 | N | 30·20 | 29·92 | 50 | 46 | 48· | — | | |
| New M. 19 | SE | 30·27 | 30·20 | 47 | 45 | 46· | ·47 | | |
| 20 | SW | 30·27 | 30·13 | 47 | 40 | 43·5 | — | | |
| 21 | NW | 30·25 | 30·14 | 41 | 24 | 32·5 | — | | |
| 22 | NW | 29·90 | 29·74 | 36 | 19 | 27·5 | — | | — |
| 23 | Var. | 29·67 | 29·58 | 31 | 20 | 25·5 | — | | |
| 24 | NW | 29·90 | 29·79 | 34 | 24 | 29· | — | | — |
| 25 | S | 30·30 | 30·00 | 37 | 36 | 36·5 | — | | — |
| 26 | NW | 30·45 | 30·30 | 48 | 25 | 36·5 | — | | |
| 27 | NW | 30·40 | 30·10 | 41 | 28 | 34·5 | — | | |
| 28 | S | 30·10 | 29·33 | 41 | 36 | 38·5 | — | | 60 |
| 29 | NW | 29·52 | 29·35 | 50 | 36 | 43· | — | | |
| 30 | S | 29·51 | 29·00 | 54 | 48 | 51· | ·36 | | 13 |
| | | 30·45 | 29·00 | 60 | 19 | 43·00 | ·83 | | 1·28 |

Notes.—Eleventh Mo. 1. Fine day: some rain at evening. 2, 3. Fine. 4. Foggy morn: fine day. 5. Cloudy. 6. Fine. 7, 8. Cloudy. 9. Drizzly. 10. Cloudy. 11, 12. Fine. 13—15. Cloudy. 16. Rainy. 17. Cloudy. 18. Foggy morning. 19. Cloudy. 20. Gloomy. 21. An extraordinary high tide about four a. m. doing very considerable damage: [accounts of which appeared in the papers of the subsequent week:] day fine. 22. Fine: a fall of snow about four p. m. covering the ground. 23. Cloudy: clear night:

considerable fall of snow during the night. 25. Gloomy: calm: 24. A gradual thaw. 26. Gloomy. 27. Fine. 28. White-frost: fine: heavy rain in night. 29. Fine. 30. Cloudy.

## RESULTS.

Winds: N, 2; NE, 1; E, 1; SE, 4; S, 3; SW, 2; W, 3; NW, 13; Var. 1.

| | | |
|---|---|---|
| Barometer: | Greatest height | 30·45 in. |
| | Least | 29·00 in. |
| | Mean | 29·969 in. |
| Thermometer: | Greatest height | 60° |
| | Least | 19° |
| | Mean | 43° |
| Evaporation | | 0·83 in. |
| Rain | | 1·28 in. |

*Penzance, Nov.* 28.—Wind SE, blowing strong, with thick dirty weather.

*Hamburgh, Nov.* 30.—The Elbe is full of drifting ice, and the navigation may be considered stopped for the present.

### *Clouds of Peru.*

*March* 24.—We are now off the coast of Peru, and have been greatly delighted with the beauty of the sky and clouds, which is here very peculiar, and, I should think, unrivalled in any other part of the world. Towards evening, and early in the morning, I have seen, at the same time, clouds of almost every colour in different parts of the heavens, and of hues I never beheld there before: for instance, a rich and perfect *green,* [this must have been an interval of sky with a thick veil of yellow drawn over it,] amber, and carmine; while the hemisphere round the rising or setting sun has been one blaze of glory.—Ellis's *Stewart's Voyage to the Sandwich Islands,* p. 81.

# TABLE CCLIX.

| 1827. | | Wind. | By Clock. | | Temp. | | Med. | Evap | Hygr. at 9 a.m. | Rain, &c. |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Max. | Min. | Max. | Min. | | | | |
| 12 mo. Dec. | 1 | W | 29·08 | 28·90 | 54° | 42° | 48· | — | | |
| | 2 | NW | 29·75 | 29·08 | 45 | 42 | 43·5 | — | | 15 |
| | 3 | NE | 29·84 | 29·75 | 60 | 40 | 50· | — | | 9 |
| | 4 | W | 29·98 | 29·78 | 54 | 49 | 51·5 | — | | 3 |
| | 5 | W | 30·00 | 29·65 | 49 | 47 | 48· | — | | 3 |
| | 6 | NW | 30·32 | 29·85 | 48 | 31 | 39·5 | — | | |
| | 7 | SW | 30·31 | 29·72 | 54 | 34 | 44· | — | | 3 |
| | 8 | NW | 30·04 | 29·90 | 48 | 28 | 38· | — | | |
| | 9 | SE | 29·90 | 29·60 | 54 | 32 | 43· | — | | |
| | 10 | SW | 29·60 | 29·32 | 55 | 44 | 49·5 | — | | 6 |
| | 11 | SW | 29·47 | 29·36 | 52 | 35 | 43·5 | ·48 | | 83 |
| | 12 | SW | 29·50 | 29·31 | 49 | 37 | 43· | — | | 15 |
| | 13 | NW | 29·70 | 29·40 | 47 | 37 | 42· | — | | 2 |
| | 14 | SE | 29·73 | 29·31 | 51 | 42 | 46·5 | — | | 40 |
| | 15 | NW | 29·70 | 29·50 | 54 | 47 | 50·5 | — | | 30 |
| | 16 | SW | 30·30 | 29·70 | 47 | 34 | 40·5 | — | | 2 |
| | 17 | SW | 30·30 | 29·80 | 52 | 38 | 45· | — | | 8 |
| New M. | 18 | SW | 29·80 | 29·57 | 54 | 51 | 52·5 | — | | 33 |
| | 19 | SW | 29·58 | 29·45 | 54 | 50 | 52· | — | | 34 |
| | 20 | SW | 29·73 | 29·56 | 49 | 38 | 43·5 | — | | |
| | 21 | SW | 29·73 | 29·35 | 48 | 37 | 42·5 | — | | 7 |
| | 22 | SW | 30·10 | 29·40 | 54 | 41 | 47·5 | — | | 38 |
| | 23 | NW | 30·16 | 29·74 | 52 | 38 | 45· | — | | 6 |
| | 24 | SW | 30·48 | 29·74 | 49 | 38 | 43·5 | — | | 10 |
| | 25 | NW | 30·56 | 30·48 | 48 | 42 | 45· | .46 | | |
| | 26 | SW | 30·55 | 30·50 | 51 | 41 | 46· | — | | |
| | 27 | SW | 30·80 | 30·50 | 50 | 31 | 40·5 | — | | — |
| | 28 | NW | 30·78 | 30·57 | 40 | 31 | 35·5 | — | | |
| | 29 | NW | 30·57 | 30·38 | 38 | 30 | 34· | — | | |
| | 30 | SE | 30·38 | 30·21 | 40 | 31 | 35·5 | — | | |
| | 31 | SE | 30·22 | 30·06 | 41 | 34 | 37·5 | ·30 | | 13 |
| | | | 30·45 | 29·00 | 60 | 28 | 44·08 | 1·24 | | 3·63 |

Notes.—Twelfth Mo. 1. Cloudy. 2. Drizzly. 3. Fine. 4. Cloudy: drizzling. 5. Cloudy. 6. Fine. 7. Stormy night. 8, 9. Fine. 10. Rain: drizzly. 11. Foggy morning: rainy night. 12. Cloudy: rain at night. 13. Foggy morning: cloudy. 14. Rainy. 15. Cloudy: rainy night. 16. Fine morning: heavy shower at three p.m. 17. Cloudy. 18. Rainy: boisterous night. 19. Rainy. 20. Fine. 21, 22. Cloudy. 23. Fine. 24. Rain. 25—27. Fine. 28. Fine day: foggy night. 29. Gloomy: dense mist all day. 30. Fine. 31. Fine: rain at night.

## RESULTS.

Winds: NE, 1; SE, 4; SW, 14; W, 3; NW, 9.

| | | |
|---|---|---|
| Barometer: | Greatest height | 30·45 in. |
| | Least | 29·00 in. |
| | Mean | 29·879 in. |
| Thermometer: | Greatest height | 60° |
| | Least | 28° |
| | Mean | 44·08° |
| Evaporation | | 1·24 in. |
| Rain | | 3·63 in. |

*Cardiff*, *Dec.* 1.—Last night and to-day it has blown a most tremendous gale from W to NW.

*Liverpool*, *Dec.* 1.—This morning, at two o'clock, it blew a strong gale from the SW to W. It became more moderate during the day, but there is every appearance of a stormy night.

*Limerick*, *Dec.* 1.—On Wednesday and last night we experienced a severe gale from W to NW. It commenced at eight o'clock; from one to three it blew a perfect hurricane; and now (p. m.) it blows very hard.

*Aberdeen*, *Dec.* 1.—It has blown a gale from SE all night and to-day.

*Limerick*, *Dec.* 9.—No arrivals since the 2d inst. nor any sailings since the 29th ult. For the last ten days we have had blowing and unsettled weather. Wind from W to WNW. This morning it is E.—*P. L.*

*Plymouth*, *Dec.* 9.—Wind NE.

*Portsmouth*, *Dec.* 10.—It has blown very hard all day from SW, and every appearance of a gale before morning.

*Falmouth*, *Dec.* 11.—Wind W.

*Limerick*, *Dec.* 12.—Last night it blew a very heavy gale at WSW.

*Limerick*, *Dec.* 16.—Since my last the wind has been blowing a very heavy gale from W to WSW, and no appearance of a change. There are now nearly forty sail of vessels wind-bound in this river.

*Portsmouth*, *Dec.* 19.—It has blown very hard the whole of last night and to-day from SW, with incessant rain.

*Deal*, *Dec.* 19.—It has blown strong all day from SW, with squalls of rain.

### The Swamp.

This name is given by seamen to "the calm and rainy latitudes, situate between the north-east and south-east trade-winds" about the equator.—See *Stewart's Voyage*, page 54. The author says, under date of January 6th: "The swamp was much less formidable than we expected: we have had but little rain, only a short calm, and no thunder-storm; though [thunder] has been heard almost constantly at a distance." [They came into this region of the ocean on the 28th December.] "We crossed the line yesterday in longitude 24° W. The mercury in the shade has ranged from 79° to 83° and in the sun stands at 116°," page 58. There is a fine description, at page 55 of this work, of the phosphorescence of the sea, which the author pronounces "a scene of unrivalled splendour and sublimity."

# Meteorological Observations,

MADE CHIEFLY AT

# STRATFORD, NEAR LONDON,

IN THE YEARS

## 1828, 1829, and 1830;

Heretofore unpublished.

| 1828. | Wind. | Barom. | | By Clock. | | Temp. | | Med. | Evap | Rain, &c. |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Max. | Min. | Max. | Min. | Max. | Min. | | | |
| 1 mo. Jan. 1 | SE | 30·07 | 29·75 | 29·95 | 29·55 | 46° | 36° | 41· | — | 55 |
| 2 | W | 30·07 | 29·67 | 29·70 | 29·40 | 50 | 34 | 42· | — | 25 |
| 3 | SW | 30·01 | 29·67 | 29·92 | 29·60 | 48 | 30 | 39· | — | |
| 4 | SW | 30·01 | 29·84 | 29·80 | 29·66 | 50 | 30 | 40· | — | 33 |
| 5 | SW | 29·94 | 29·84 | 29·85 | 29·67 | 36 | 30 | 33· | — | 25 |
| 6 | E | 30·18 | 29·94 | 30·06 | 29·85 | 35 | 30 | 32·5 | — | |
| 7 | SE | 30·18 | 30·07 | 30·04 | 29·92 | 34 | 30 | 32· | — | |
| 8 | E | 30·20 | 30·09 | 30·10 | 29·98 | 36 | 32 | 34· | — | |
| 9 | E | 30·20 | 30·95 | 29·06 | 29·73 | 30 | 24 | 27· | — | |
| 10 | SE | 29·95 | 29·78 | 29·73 | 29·59 | 30 | 26 | 28· | — | — |
| 11 | SE | 29·96 | 29·77 | 29·85 | 29·59 | 42 | 30 | 36· | — | — |
| 12 | SW | 29·96 | 29·39 | 29·85 | 29·13 | 48 | 44 | 46· | — | 90 |
| 13 | SW | 29·76 | 29·39 | 29·62 | 29·13 | 48 | 38 | 43· | — | 7 |
| 14 | NE | 29·94 | 29·76 | 29·86 | 29·49 | 41 | 35 | 38· | — | 27 |
| New M. 15 | NW | 29·96 | 29·94 | 29·90 | 29·78 | 38 | 33 | 35·5 | — | 50 |
| 16 | E | 30·13 | 29·96 | 30·03 | 29·90 | 38 | 34 | 36· | — | 38 |
| 17 | SE | 30·29 | 30·13 | 30·24 | 29·99 | 45 | 38 | 41·5 | — | 28 |
| 18 | SW | 30·42 | 30·29 | 30·31 | 30·23 | 48 | 43 | 46·5 | — | 7 |
| 19 | SW | 30·46 | 30·42 | 30·37 | 30·31 | 52 | 51 | 61·5 | — | |
| 20 | W | 30·46 | 30·44 | 30·36 | 30·32 | 52 | 39 | 45·5 | — | |
| 21 | W | 30·44 | 30·27 | 30·32 | 30·15 | 51 | 40 | 45·5 | — | |
| 22 | SW | 30·42 | 30·27 | 30·35 | 30·15 | 55 | 44 | 49·5 | ·46 | — |
| 23 | W | 30·51 | 30·42 | 30·45 | 30·35 | 64 | 42 | 53· | — | |
| 24 | SW | 30·51 | 30·35 | 30·44 | 30·20 | 55 | 44 | 49·5 | — | — |
| 25 | SW | 30·42 | 30·34 | 30 37 | 30·15 | 52 | 40 | 46· | — | |
| 26 | NW | 30·54 | 30·42 | 30·47 | 30·38 | 48 | 40 | 44· | — | |
| 27 | W | 30·58 | 30·54 | 30·51 | 30·47 | 43 | 30 | 36·5 | — | |
| 28 | W | 30·58 | 30·40 | 30·50 | 30·26 | 43 | 35 | 39· | — | |
| 29 | SW | 30·40 | 30·29 | 30·26 | 30·16 | 44 | 36 | 40· | — | |
| 30 | S | 30·29 | 30·20 | 30·16 | 30·05 | 49 | 30 | 39·5 | — | |
| 31 | SE | 30·20 | 30·14 | 30·05 | 29·96 | 60 | 40 | 50· | ·45 | 20 |
| | | 30·58 | 29·39 | 30·51 | 29·13 | 64 | 24 | 40·66 | ·91 | 4·05 |

Notes.—First Mo. 1. Rainy. 2. Rainy night. 3. Fine. 4. Rainy. 5. Snowy day: snow in very large flakes. 6. Cloudy. 7. Bleak. 8. Cold wind all day. 9, 10. Fine. 11. Ground covered with snow this morning: a gradual thaw during the day. 12. Very foggy day: stormy night. 13. Boisterous wind all day, with rain. 14. Cloudy. 15. Cloudy day: a considerable fall of snow during the night. 16. Cloudy: rainy night. 17. Rainy. 18. Drizzly all day. 19. Very fine morning: day fine. 20—23. Fine. 24. Cloudy and fine. 25—27. Fine. 28, 29. Cloudy. 30. Fine. 31. Rainy night.

## RESULTS.

Winds: NE, 1; E, 4; SE, 6; S, 1: SW, 11; W, 6; NW, 2.

| | | |
|---|---|---|
| Clock Barometer at Tottenham: | Greatest height | 30·51 in. |
| | Least | 29·13 in. |
| | Mean | 30·010 in. |
| Barometer at the Laboratory: | Mean | 29·980 in. |
| Thermometer: | Greatest height | 64° |
| | Least | 24° |
| | Mean | 40·66° |
| Evaporation | | 0·91 in. |
| Rain | | 4·05 in. |

This month was marked by great storms on the coast, and by floods in various parts of the country: of a few of which the following extracts present accounts.

*Falmouth, Jan.* 7.—It has blown the whole of this day a tremendous gale from SE to ESE, and continues.

*Penzance, Jan.* 7.—We are now experiencing a most tremendous storm from the SE and SSE, accompanied with great torrents of rain and a frightful sea.

*Portsmouth, Jan.* 12.—About three o'clock this morning it came on to blow a most severe gale at WSW, and at times a hurricane, accompanied with thunder and lightning. Six p. m. rather more moderate.

*Lymington.*—A most tremendous hurricane commenced on Saturday night, [12th,] at Keyhaven, which occasioned such an overwhelming sea as to carry away part of Hurst Beach, and before daylight on Sunday morning the village was threatened with destruction. The breakers rolled over the high road, and beat against the windows of the houses. Happily, however, the damage was confined to the boats moored there, most of which had been driven off, and washed upon the lee-shore. Although many floods have occurred in this port, a similar visitation, with such sudden and awful appearance, was never before experienced.

*Weymouth, Jan.* 13.—It has blown a tremendous hurricane the whole of Saturday night and Sunday morning, from SSE to WSW, with heavy squalls of rain.

*Whitstable Jan.* 13.—It has blown a heavy gale about W, almost throughout the day. The wind is now more to the northward, still blowing a gale.

*Plymouth, Jan.* 13.—It blew a most tremendous gale the whole of last night and this morning from SSE to SSW, attended with very heavy rain.

*Topsham, Jan.* 13.—It blew exceedingly hard, with rain, the greater part of last night, from SSE to S. At three a. m. it suddenly shifted to WSW, blowing a hurricane; at eight p. m. more moderate.

*Falmouth, Jan.* 13.—We had a repetition of bad weather last night, the wind blowing a tremendous hurricane from WSW, commencing about midnight, and continuing till daylight; for many years we have not experienced any thing like it. Great damage has been done in this and neighbouring towns, by the falling of chimnies and tiles and unroofing of houses.

*Liverpool, Jan.* 13.—Last night, from about eleven o'clock, we had heavy rain and wind for some hours. To-day the wind at NNE, and fair.

*North Shields, Jan.* 15.—Since the 12th, at night, it has blown a heavy gale from the eastward, and continues. The sea is so heavy upon the bar, that no vessel can get out.

*Ramsgate, Jan.* 16.—Last night it came on to blow very heavily from the east.

*North Shields, Jan.* 17.—Since yesterday afternoon it has blown a violent gale from SE, and continues with sleet and snow.

*Newcastle-upon-Tyne, Jan.* 19.—Last Wednesday night [16th] a strong gale set in from the eastward, accompanied with snow, which fell very heavily for some hours. Towards the morning the storm increased, and continued with extreme severity till mid-day on Thursday. It then began to moderate, and in the course of the afternoon a rapid thaw commenced. The waters of the Tyne were suddenly so swollen with the melted snow that had fallen in the west, and the current became so impetuous, in consequence, that a scene of devastation occurred at Shields-harbour last night, such as has not been witnessed for a great many years. Not less than fifty or sixty ships, some of them laden, were torn from their moorings. Some of them were sunk; others were deprived of their bowsprits, &c. in the general crash. An eye-witness describes the noise and confusion as terrific in the extreme. Thank God! it does not appear that any lives have been lost. Some keels are reported to have been driven out to sea. It is doubtful whether 10,000*l.* will cover the whole of the damage occasioned by this mighty rush of waters.—*P. L. Jan.* 22.

*Windsor, Jan.* 19.—The waters in this neighbourhood have, within the present week, risen to an almost unprecedented height. This may be accounted for from the circumstance of the late flood having but partially subsided when the continued fall of snow came down on Tuesday evening and the greater part of Wednesday, to the subsequent rapid thaw, and the unremitting rains which have followed day and night up to this time. The river began to swell rapidly on Wednesday, and the banks being soon unable to restrain the overwhelming current, swept over the surrounding country, far and wide. From the elevated part of the town, and particularly from the Terrace, the scene has a magnificent and panoramic effect. Nearly all the adjacent country appears covered by the wild waste of waters, with here and there a green island interspersed. Almost all the outlets to this town are impassable to the foot-passenger; some have even become perilous both to man and beast.

All the low lands on the line of the Thames and Kennet are flooded to a great depth, some thousands of acres being covered with water. The view from Caley towards the Kennet, and from Sydney-terrace and the Forbury towards the Thames, presents the appearance of a wide arm of the ocean, rather than of the peaceful meadows of those sylvan situations.—*Berks Chronicle.*

The late heavy falls of rain and snow have caused the Thames at Henley to overflow its banks, and inundate the country to a very great extent; the rise for the last five days has been progressive, which the continual showery weather tends still to keep up. The road from that town to Wargrave, as well as those to Reading and Marlow, have been impassable for foot-passengers for some days.—*Oxford Journal. P. L. Jan.* 22.

*Plymouth.*—The devastations of the late gales on shore have been very extensive. Scarcely a house in the three towns has altogether escaped injury. The streets were thickly strewed with slates, blown from the roofs of the surrounding dwellings, and almost every mason in the town was in requisition, to repair

gaps, which might have been increased to a very serious degree, had the gale returned with the ensuing night. A piece of sheet-lead, measuring ten feet square, and weighing a hundred pounds, was carried from the top of a house at the back of Tavistock-street, into the court of Mr. Morris, of Fore-street, a distance of sixty feet, where it knocked some bricks out of a chimney, and fell to the ground. In the dock-yard considerable injury has been done to the roofs and chimnies. On one of the buildings a large quantity of sheet-lead was rolled up by the wind, with as much ease as if it had been paper. In the gun-wharf, a piece of lead, weighing thirty-six cwt., was ripped off the roof of the north store, and thrown into the canal. The Devonport Column, although seated so high, received no damage, but the persons residing near it, describe the roaring of the wind through the balustrades at the top to have been truly terrific—resembling a loud continued shriek, which might at all times be perfectly distinguished above the howling of the gale through the streets.

In Stonehouse, a pinnacle of the tower fell through the roof into the body of the edifice, and effected so much damage, that no Divine Service was performed in it on Sunday.

The damage at Kingsland and Cawsand is very serious. One house was entirely blown down, and some of the inmates bruised. At Mount Edgecumbe, upwards of a hundred trees were laid level with the ground; at Tothill, near Plymouth, about forty; and the woods at Saltram, Rudford, Hooe, and many other places, present undeniable proofs of the ravages of this calamitous storm, —*Devonport Telegraph.* *P. L. Jan.* 22.

| 1828. | Wind. | Barometer. | | By Clock. | | Temp. | | Med. | Evap | Rain, &c. |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Max. | Min. | Max. | Min. | Max. | Min. | | | |
| 2mo.Feb.1 | SW | 30·27 | 30·14 | 30·20 | 30·00 | 65° | 43° | 54· | — | |
| 2 | NW | 30·60 | 30·27 | 30·56 | 30·18 | 50 | 35 | 42·5 | — | |
| 3 | NW | 30·62 | 30·41 | 30·58 | 30·42 | 47 | 36 | 41·5 | — | — |
| 4 | NW | 30·41 | 30·35 | 30·44 | 30·26 | 62 | 40 | 51· | — | |
| 5 | W | 30·35 | 30·23 | 30·26 | 30·10 | 53 | 48 | 50·5 | — | 6 |
| 6 | W | 30·23 | 30·12 | 30·10 | 30·00 | 52 | 45 | 48·5 | — | |
| 7 | SW | 30·12 | 30·09 | 30·00 | 29·94 | 48 | 40 | 44· | — | 10 |
| 8 | NW | 30·09 | 29·87 | 29·97 | 29·70 | 50 | 35 | 42·5 | — | |
| 9 | N | 30·00 | 29·87 | 29·88 | 29·72 | 40 | 34 | 37· | — | — |
| 10 | NE | 30·00 | 29·70 | 29·88 | 29·51 | 34 | 30 | 32· | — | — |
| 11 | NE | 30·16 | 29·82 | 30·05 | 29·53 | 41 | 29 | 35· | — | — |
| 12 | NW | 30·30 | 30·16 | 30·20 | 30·05 | 38 | 28 | 33· | — | — |
| 13 | NE | 30·30 | 29·98 | 30·20 | 29·80 | 35 | 29 | 32· | — | |
| 14 | SE | 29·87 | 29·72 | 29·80 | 29·53 | 35 | 27 | 31· | — | — |
| New M. 15 | NW | 30·07 | 29·87 | 29·95 | 29·70 | 36 | 27 | 31·5 | — | 50 |
| 16 | NW | 30·07 | 29·97 | 29·95 | 29·77 | 40 | 25 | 32·5 | — | |
| 17 | SE | 29·97 | 29·66 | 29·77 | 29·45 | 40 | 27 | 33·5 | — | |
| 18 | SE | 29·66 | 29·53 | 29·45 | 29·30 | 42 | 35 | 38·5 | — | — |
| 19 | NW | 29·53 | 29·52 | 29·40 | 29·30 | 50 | 34 | 42· | — | |
| 20 | S | 29·52 | 29·27 | 29·30 | 29·05 | 51 | 36 | 43·5 | ·48 | |
| 21 | E | 29·27 | 29·21 | 29·05 | 28·92 | 50 | 37 | 43·5 | — | — |
| 22 | SE | 29·50 | 29·22 | 29·30 | 28·95 | 51 | 36 | 43·5 | — | — |
| 23 | NW | 29·97 | 29·50 | 29·84 | 29·30 | 46 | 34 | 40· | — | — |
| 24 | NW | 30·03 | 29·97 | 29·89 | 29·84 | 48 | 40 | 44· | — | |
| 25 | SW | 30·19 | 30·03 | 30·10 | 29·90 | 49 | 38 | 43·5 | — | 25 |
| 26 | SW | 30·28 | 30·19 | 30·18 | 30·08 | 56 | 43 | 49·5 | — | |
| 27 | SE | 30·45 | 30·28 | 30·40 | 30·18 | 53 | 46 | 49·5 | — | — |
| 28 | NW | 30·45 | 30·38 | 30·42 | 30·30 | 52 | 40 | 46· | — | |
| 29 | NW | 30·45 | 30·38 | 30·43 | 30·30 | 55 | 41 | 48· | ·35 | 2 |
| | | 30·62 | 29·91 | 30·58 | 28·92 | 65 | 25 | 41·50 | ·83 | ·93 |

Notes.—Second Mo. 1. Cloudy. 2, 3. Fine. 4—6. Cloudy. 7. Fine day: rain at night. 8. Fine. 9. Cloudy. 10. Cloudy: cold wind. 11. Snowy: began about 2 a. m.; ground covered to the depth of four inches by nine o'clock, and then snowing fast. 12. Snowy. 13. Cloudy: bleak. 14. Snowy. 15—17. Fine. 18. Cloudy. 19, 20. Fine. 22. Cloudy. 23. Drizzly. 24. Fine. 25. Drizzly. 26. Fine. 27. Drizzly. 28. Fine. 29. Cloudy and fine.

## RESULTS.

Winds: N, 1; NE, 3; E, 1; SE, 5; S, 1; SW, 4; W, 2; NW, 12.

| | | |
|---|---|---|
| Clock Barometer at Tottenham: | Greatest height | 30·58 in. |
| | Least | 28·92 in. |
| | Mean | 29·871 in. |
| Barom. at the Lab^y. (see the tab.) | Mean | 30·007 in. |
| Thermometer: | Greatest height | 65° |
| | Least | 25° |
| | Mean | 41·50° |
| Evaporation | | 0·83 in. |
| Rain | | 0·93 in. |

*Memel, Feb.* 5.—These fourteen days past the weather has been very mild, which has carried off the snow, and made a very great impression on the ice, yet it remains fast to the entrance of the harbour.

*Hamburgh, Feb.* 12.—Since last Friday night a severe frost set in again, and the navigation has been put a stop to by the quantities of drifting ice.

*Memel, Feb.* 23.—The whole of the Pomeranian coast is completely beset with ice. An entire navigation cannot be expected before the end of next month.

THE WEATHER.—Though there has been a great deal of rain, there has been no frost this winter, that did any serious injury to vegetation. Not a turnip has been destroyed, and those that remain in the field, in this vicinity, are still fresh and vigorous. The young grass has an excellent appearance. The wheat is a good braid, and forward, though late in sowing,—too forward, indeed, considering that it has the chilling blasts of February to withstand. Within the last eight days a great change has taken place in the appearance of the fields; the ground has dried materially, and farmers are preparing to proceed with their ploughing for oats.—*Scotsman.* *P. L.*

*Quicksilver frozen by natural cold, and melted by a shock.*

"On the evening of the 4th January, (1828,) the temperature being —52·2°, Mr. Kendall froze some mercury in the mould of a pistol-bullet, and fired it against a door at the distance of six paces. A small quantity penetrated to the depth of one-eighth of an inch, but the remainder only just lodged in the wood."—*Franklin's Second Expedition,* page 296. The fusion produced by the shock against the plank (even supposing the quicksilver to pass solid through the air) would effectually prevent its piercing the wood, as lead does. *Iron* may be made red-hot by hammering, as I have myself witnessed.—L. H.

| 1828. | Wind. | Barometer. | | By Clock. | | Temp. | | Med. | Evap | Rain, &c. |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Max. | Min. | Max. | Min. | Max. | Min. | | | |
| 3mo.Mar.1 | NW | 30·38 | 30·24 | 30·30 | 30·12 | 46° | 40° | 43· | — | |
| 2 | NW | 30·24 | 30·18 | 30·17 | 30·05 | 43 | 35 | 39· | — | — |
| 3 | NW | 30·18 | 30·13 | 30·05 | 29·92 | 60 | 43 | 51·5 | — | |
| 4 | NW | 30·13 | 29·88 | 30·01 | 29·70 | 60 | 40 | 50· | — | |
| 5 | NW | 30·12 | 29·88 | 29·99 | 29·72 | 34 | 30 | 32· | — | |
| 6 | NW | 30·41 | 30·12 | 30·31 | 29·99 | 40 | 25 | 32·5 | — | |
| 7 | W | 30·41 | 30·25 | 30·31 | 30·10 | 48 | 40 | 44· | — | 15 |
| 8 | W | 30·41 | 30·25 | 30·33 | 30·15 | 50 | 48 | 49· | — | |
| 9 | SW | 30·41 | 30·39 | 30·33 | 30·28 | 55 | 48 | 51·5 | — | |
| 10 | NW | 30·41 | 30·41 | 30·34 | 30·29 | 58 | 43 | 50·5 | — | |
| 11 | SW | 30·41 | 30·23 | 30·34 | 30·14 | 59 | 48 | 53·5 | — | |
| 12 | SW | 30·26 | 30·23 | 30·20 | 30·10 | 58 | 46 | 52· | — | |
| 13 | SW | 30·42 | 30·26 | 30·36 | 30·20 | 63 | 48 | 55·5 | — | |
| 14 | SW | 30·49 | 30·42 | 30·44 | 30·36 | 62 | 37 | 49·5 | — | |
| New M.15 | SW | 30·49 | 30·49 | 30·46 | 30·35 | 65 | 39 | 52· | — | |
| 16 | SW | 30·49 | 30·30 | 30·35 | 30·23 | 64 | 49 | 56·5 | — | — |
| 17 | NW | 30·31 | 30·30 | 30·26 | 30·22 | 60 | 46 | 53· | — | |
| 18 | NW | 30·31 | 29·67 | 30·26 | 29·48 | 56 | 43 | 49·5 | — | |
| 19 | NW | 29·67 | 29·65 | 29·62 | 29·40 | 53 | 40 | 46·5 | — | — |
| 20 | SW | 29·65 | 29·22 | 29·40 | 29·05 | 53 | 40 | 46·5 | — | — |
| 21 | NW | 29·47 | 29·22 | 29·30 | 28·98 | 53 | 44 | 48·5 | — | 18 |
| 22 | SW | 29·60 | 29·47 | 29·45 | 29·29 | 43 | 32 | 37·5 | — | — |
| 23 | NW | 29·83 | 29·60 | 29·68 | 29·45 | 40 | 30 | 35· | — | 8 |
| 24 | NW | 29·98 | 29·83 | | | 42 | 30 | 36· | — | |
| 25 | NW | 30·05 | 29·98 | | | 48 | 25 | 36·5 | — | — |
| 26 | NW | 30·05 | 29·70 | | | 50 | 36 | 43· | ·95 | 6 |
| 27 | SE | 29·70 | 29·69 | | | 60 | 40 | 50· | — | 38 |
| 28 | NE | 30·00 | 29·69 | | | 46 | 27 | 36·5 | — | 2 |
| 29 | NW | 30·17 | 30·00 | | | 50 | 32 | 41· | — | 9 |
| 30 | NE | 30·46 | 30·17 | | | 52 | 25 | 38·5 | — | |
| 31 | SE | 30·47 | 30·46 | | | 58 | 26 | 42· | ·31 | |
| | | 30·47 | 29·22 | 30·46 | 28·98 | 65 | 25 | 45·22 | 1·26 | ·96 |

Notes.—Third Mo. 1. Cloudy. 2. Cloudy and fine. 3, 4. Fine. 5. Fine: an extraordinary high tide p. m. 6. Fine: cold wind. 7. Fine: rain at night. 8. Cloudy. 9—14. Fine. 15. Foggy morning: fine day. 16, 17. Fine. 18. Fine: very boisterous wind all night. 19. Fine. 20. Fine: a heavy shower three p. m. 21. A shower of hail at three p. m. 22. A hail-storm about noon: cloudy. 23, 24. Fine. 25. Showers: hoar-frost. 26. Fine. 27. Fine day: rainy night. 28, 29. Cloudy. 30, 31. Fine.

## RESULTS.

Winds: NE, 2; SE, 2; SW, 9; W, 2; NW, 16.

| | | |
|---|---|---|
| Clock Barometer at Tottenham: | Greatest height . . | 30·46 in. |
| | Least . . . . | 28·98 in. |
| | Mean, (8 days supplied) | 30·003 in. |
| Barometer at the Laby. | Mean . . . . | 30·074 in. |
| Thermometer: | Greatest height . . | 65° |
| | Least . . . . | 25° |
| | Mean . . . . | 45·22° |
| Evaporation (for 16 days, remainder uncertain) . . | | 1·26 in. |
| Rain . . . . . | | 0·96 in. |

*Hamburgh, March* 4.—There is still a good deal of ice in the Elbe.

*Scarborough, March* 5.—It has blown a tremendous gale from the north last night and to-day.

*Deal, March* 6.—Throughout this day it has blown very strong, in squalls, from the NNE to NNW.—5 p. m. NNW, strong breeze.

*Elsinore, March* 6.—The ice in the Sound began to break up on the 27th ult. and although the passage has been occasionally interrupted by drift ice, we do not apprehend a return of frost; and if the present strong winds from SW continue a few days, we think the navigation to the lower ports in the Baltic may be considered open.

*March* 10.—On the 8th inst. the wind having suddenly changed to SE, so great a quantity of loose ice drifted from the Swedish coast, as for a short time entirely to fill up the Sound.

*Memel, March* 10.—This week we have had a strong thaw, which has already carried off the snow in the neighbourhood, and has made such an impression on the ice, that an entire free navigation may be expected in ten or fourteen days.

A letter from Memel, dated March 18, says—"Last week keen night frosts have covered the river, from side to side, with thick floating ice, and strengthened the old so much, that an entire free navigation cannot be expected before the middle of the next month."

Accounts from Scotland received yesterday, give a description of the effects of the heavy fall of snow which had taken place. *The Glasgow Courier* of March 6, says—"By the Fingal steam-boat, arrived in the river this morning from Belfast, we received the following deplorable account of the effects of the gale on Saturday night, off the Irish coast:—Vessels lost—[a list of seven, mostly 'with all hands.']—Gale of wind varying from NW to SE.—*P. L. March* 19.

*Deal, March* 19.—It blew hard last night from the westward.

*Weymouth, March* 19.—Between thirty and forty sail of vessels are riding at anchor in Portland Roadstead, all well. Wind NW, and blows hard.

*Holyhead, March* 19.—Throughout last night it blew excessive hard in squalls, from W by S to NW by W. Since noon the gale has subsided, and it is now fine clear weather.

*Portsmouth, March* 23.—The wind blew very hard at NW on Friday, but moderated yesterday morning.

*Elsineur, March* 24.—No drift ice has been seen in the Sound for the last eight or ten days.

*Memel, March* 25.—The stoppage of ice gave way on the 20th inst. at night, without doing any material damage, and if the present weather continues, the ships will be able to lie in the stream and load without damage.

| 1828. | Wind. | Barometer. | | By Clock. | | Temp. | | Med. | Evap | Rain, &c. |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Max. | Min. | Max. | Min. | Max. | Min. | | | |
| 4mo.Apr.1 | NE | 30·46 | 30·20 | | | 56° | 37° | 46·5 | — | |
| 2 | NE | 30·26 | 30·20 | | | 61 | 32 | 46·5 | — | |
| 3 | NW | 30·26 | 30·13 | | | 48 | 33 | 40·5 | — | |
| 4 | NE | 30·13 | 30·02 | 30·00 | 29·65 | 49 | 29 | 39· | — | |
| 5 | NW | 30·02 | 29·78 | 29·65 | 29·46 | 48 | 35 | 41·5 | — | — |
| 6 | NW | 29·78 | 29·59 | 29·57 | 29·39 | 46 | 36 | 41· | — | 27 |
| 7 | SE | 29·59 | 29·58 | 29·45 | 29·25 | 48 | 34 | 41· | — | 12 |
| 8 | SE | 29·58 | 29·51 | 29·25 | 29·19 | 52 | 45 | 48·5 | — | |
| 9 | SW | 29·57 | 29·51 | 29·28 | 29·21 | 60 | 40 | 50· | — | |
| 10 | SW | 29·89 | 29·57 | 29·56 | 29·24 | 60 | 39 | 49·5 | — | — |
| 11 | NW | 29·89 | 29·81 | 29·56 | 29·43 | 58 | 49 | 53·5 | — | — |
| 12 | NW | 29·81 | 29·70 | 29·51 | 29·21 | 56 | 54 | 55· | — | |
| 13 | SW | 29·94 | 29·70 | 29·64 | 29·10 | 55 | 46 | 50·5 | — | |
| New M. 14 | W | 29·95 | 29·94 | 29·70 | 29·56 | 64 | 44 | 54· | ·96 | 21 |
| 15 | S | 29·95 | 29·80 | 29·50 | 29·34 | 56 | 45 | 50·5 | — | 13 |
| 16 | SW | 29·80 | 29·60 | 29·90 | 29·09 | 57 | 45 | 51· | — | 6 |
| 17 | SW | 29·60 | 29·51 | 29·37 | 29·30 | 55 | 44 | 49·5 | — | 21 |
| 18 | SW | 29·67 | 29·51 | 29·66 | 29·37 | 56 | 46 | 51· | — | 82 |
| 19 | NW | 29·98 | 29·67 | 29·97 | 29·66 | 59 | 43 | 51· | — | 19 |
| 20 | NE | 29·98 | 29·85 | 29·97 | 29·74 | 55 | 44 | 49·5 | — | 1 |
| 21 | NW | 29·95 | 29·56 | 29·74 | 29·50 | 60 | 40 | 50· | — | 10 |
| 22 | SW | 29·77 | 29·56 | 29·66 | 29·51 | 40 | 36 | 38· | — | 2 |
| 23 | NW | 29·77 | 29·70 | 29·67 | 29·48 | 52 | 40 | 46· | — | 22 |
| 24 | W | 29·80 | 29·77 | 29·71 | 29·63 | 60 | 50 | 55· | — | — |
| 25 | SW | 29·93 | 29·80 | 29·90 | 29·50 | 50 | 40 | 45· | — | 20 |
| 26 | NW | 30·30 | 29·93 | 30·20 | 29·91 | 61 | 36 | 48·5 | ·90 | |
| 27 | SE | 30·30 | 30·30 | 30·18 | 30·14 | 67 | 39 | 53· | — | |
| 28 | SW | 30·30 | 30·25 | 30·16 | 30·14 | 74 | 40 | 57· | — | |
| 29 | SW | 30·35 | 30·25 | 30·35 | 30·13 | 77 | 51 | 64· | — | |
| 30 | NE | 30·43 | 30·35 | 30·38 | 30·32 | 77 | 36 | 56·5 | 55 | |
| | | 30·46 | 29·51 | 30·38 | 29·09 | 77 | 29 | 49·08 | 2·41 | 2·56 |

Notes.—Fourth Mo. 1, 2. Fine. 3, 4. Cloudy. 5. Showery. 6. Cloudy. 7. Rainy. 8. Cloudy. 9. Fine. 10. Cloudy. 11. Fine. 12. Showery. 13. Fine: windy. 14. Showery. 15. Rainy. 16. Showery. 17—19. Rainy. 20. Overcast: showers. 21. Cloudy: rain at night. 22, 23. Cloudy. 24. Fine. 25. Fine: rain at night. 26—30. Fine.

## RESULTS.

Winds: NE, 5; SE, 3; S, 1; SW, 10; W, 2; NW, 9.

| | | |
|---|---|---|
| Barometer: | Greatest height | 30·46 in. on the 1st. |
| | Least | 29·51 in. |
| | Mean | 29·892 in. |
| Thermometer: | Greatest height | 77° |
| | Least | 29° |
| | Mean | 49·08° |
| Evaporation | | 2·41 in. |
| Rain | | 2·56 in. |

[Clock Barometer (removed in the latter part of last month to *Ackworth:)* Greatest height . . . 30·38 in. on the 30th.
Least . . . 29·09 in.
Mean . . . 29·692 in.
Three days from the Barometer at the School being included, as follows: viz.—1, 30·23—30·08: 2, 30·12—30·08: 3, 30·12—28·97 in.]

The Clock Barometer was removed from Tottenham to my residence at Ackworth, Yorkshire, in consequence of my relinquishing the house I inhabited in the winters at Tottenham. And although *the distance between the two places of observation exceeds one hundred and seventy-five miles,* I have thought fit to insert the continuation of the results; both for comparison, and to keep on the series of observations by this instrument, from which I shall make up the final results. I have caused to be kept, since 1823, a Meteorological Register at the Friends' School, Ackworth.

| 1828. | Wind. | Barometer. | | By Clock. | | Temp. | | Med. | Evap | Rain, &c. |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Max. | Min. | Max. | Min. | Max. | Min. | | | |
| 5mo.May 1 | NE | 30·35 | 30·30 | 30·35 | 30·17 | 69° | 36° | 52·5 | — | |
| 2 | E | 30·30 | 30·03 | 30·17 | 29·95 | 67 | 46 | 56·5 | — | |
| 3 | ESE | 30·03 | 29·74 | 29·95 | 29·65 | 72 | 51 | 61·5 | — | |
| 4 | SW | 29·74 | 29·65 | 29·65 | 29·60 | 65 | 46 | 55·5 | — | — |
| 5 | NW | 29·68 | 29·65 | 29·71 | 29·60 | 62 | 39 | 50·5 | — | |
| 6 | NE | 29·82 | 29·68 | 29·89 | 29·71 | 64 | 36 | 50· | — | |
| 7 | NE | 29·86 | 29·82 | 29·96 | 29·89 | 66 | 35 | 50·5 | — | 19 |
| 8 | NE | 30·05 | 29·86 | 30·04 | 29·96 | 63 | 36 | 49·5 | — | |
| 9 | NW | 30·15 | 30·05 | 30·11 | 30·04 | 66 | 38 | 52· | — | |
| 10 | NW | 30·15 | 30·08 | 30·04 | 29·94 | 66 | 50 | 58· | — | |
| 11 | W | 30·23 | 30·15 | 30·22 | 29·95 | 67 | 49 | 58· | — | |
| 12 | NE | 30·30 | 30·23 | 30·24 | 30·20 | 67 | 38 | 52·5 | ·97 | |
| New M. 13 | SE | 30·23 | 30·20 | 30·20 | 30·14 | 68 | 48 | 58· | — | |
| 14 | E | 30·20 | 30·07 | 30·16 | 30·06 | 74 | 40 | 57· | — | |
| 15 | SE | 30·07 | 29·85 | 30·06 | 29·99 | 73 | 50 | 61·5 | — | |
| 16 | SE | 29·85 | 29·80 | 30·00 | 29·90 | 74 | 54 | 64· | — | |
| 17 | SE | 29·80 | 29·77 | 29·90 | 29·89 | 77 | 54 | 65·5 | — | |
| 18 | E | 29·79 | 29·77 | 29·90 | 29·86 | 67 | 42 | 54·5 | — | |
| 19 | SE | 29·77 | 29·75 | 29·88 | 29·75 | 68 | 48 | 58· | — | |
| 20 | SE | 29·75 | 29·50 | 29·75 | 29·60 | 72 | 48 | 60· | ·96 | |
| 21 | E | 29·50 | 29·50 | 29·60 | 29·59 | 71 | 52 | 61·5 | — | — |
| 22 | NE | 29·51 | 29·50 | 29·60 | 29·55 | 65 | 49 | 57· | — | — |
| 23 | NE | 29·50 | 29·35 | 29·55 | 29·28 | 72 | 55 | 63·5 | — | 58 |
| 24 | NE | 29·62 | 29·35 | 29·60 | 29·18 | 70 | 48 | 59· | — | 7 |
| 25 | W | 29·70 | 29·62 | 29·75 | 29·60 | 71 | 49 | 60· | — | |
| 26 | E | 29·62 | 29·50 | 29·64 | 29·45 | 72 | 48 | 60· | — | 22 |
| 27 | SE | 29·50 | 29·40 | 29·48 | 29·43 | 72 | 49 | 60·5 | — | 25 |
| 28 | NW | 29·61 | 29·50 | 29·58 | 29·48 | 68 | 55 | 61·5 | — | 2 |
| 29 | SW | 29·87 | 29·61 | 29·86 | 29·58 | 74 | 53 | 63·5 | ·94 | 10 |
| 30 | NW | 29·87 | 29·85 | 29·85 | 29·65 | 76 | 54 | 65· | — | 7 |
| 31 | NW | 29·90 | 28·87 | 29·90 | 29·65 | 72 | 52 | 62· | ·10 | |
| | | 30·35 | 28·87 | 30·35 | 29·00 | 77 | 35 | 58·03 | 2·97 | 1·50 |

Notes.—Fifth Mo. 1, 2. Fine. 3. Cloudy. 4, 5. Fine. 6. Cloudy. 7—21. Fine. 22. Slight showers. 23. Light showers: rain at night. 24. Showery. 25. Cloudy and fine. 26—28. Showery. 29, 30. Fine.

## RESULTS.

Winds: NE, 8; E, 5; SE, 8; SW, 2; W, 2; NW, 6.

| | | |
|---|---|---|
| Barometer: | Greatest height | 30·35 in. |
| | Least | 28·87 in. |
| | Mean | 29·811 in. |
| Thermometer: | Greatest height | 77° |
| | Least | 35° |
| | Mean | 58·03° |
| Evaporation | | 2·97 in. |
| Rain | | 1·50 in. |

[Clock Barometer at *Ackworth,* max. 30·35 in. min. 29·00 in. mean, 29·819 in.]

### Extraordinary Hail.

On the 21st May, 1828, in the dep. du Gard, in France, there fell about 6 p. m. an extraordinary shower of hail. After hard rain, about four the weather took up; the sun appeared at intervals, but was very soon again overcast, and a violent south-west wind drove the clouds very low and thick, which rolling over each other, without mixing, had the appearance of being swelled out by their mutual pressure, [the *Cumulostratus* with a strong electrical tension, which, however, is *internal,* and not the pressure here supposed. See vol. 2, page 79.] Presently there burst out, in torrents, a hail, which every one who witnessed it considered as most extraordinary—many of the hailstones being, without exaggeration, *of the size of one's fist clenched.* "I got two of them weighed, (says the narrator,) which I took at random: the one was a hundred and fifty-three grammes, [or five ounces,] the other a hundred and thirty grammes, [or four ounces,] covered with tubercles or blunt points, of the size of the little finger's end." They were transparent without, and had a whitish nucleus of two centimetres diameter; which in those I examined was hard, and not like a mass of snow. Some showed concentric zones, alternately opaque and transparent. They were elastic, and bounded several yards on a pavement. There fell with them some that were smaller—perhaps fragments of the large ones, and a great quantity of the size of a small nut; which had their origin probably in a different cloud, if it be true that all hailstones from the same cloud are nearly of one shape and size.

The *swiftness* of the descent was proportioned to the *magnitude*—the bigger seemed to *slope* more in their fall: whether (says the author) they came from a greater height, or that the wind had more power on them. [It is plain these had more remaining *momentum.*]

While this hail was yet approaching, and while at some distance, passing away, there was heard a rustling noise. It lasted seven minutes only, in the Commune of Hypolite de Caton, and took but a quarter of an hour to pass the whole space it covered, which was about ten post leagues in length. It ended at Lussan, (a place to the north-west,) the breadth of the track varied from eight hundred to nine hundred metres. It fell without rain, after a time of thunder-showers, preceded by a suffocating heat. There was no loss of life, but there are some communes (says the narrative) in which every thing in the fields was ruined: the stems of trees exposed to it were cut and bruised, and the young shoots and branches broken. The vines had to be cut off close to the stem. See the *Bibl. Universelle* for Sept. 1828. I shall do the writer the justice to add a remark or two of his own, as follows: "Les explications qu'ont données les physiciens de la formation de la grèle ne sont pas satisfaisantes, surtout quand on la voit de près. Il y en a, selon toute apparence, de plusieurs espèces: elles peuvent être formées de différentes manières.—L'idée de faire balloter les grêlons entre des nuages, douées d'electricité differente, comme les boulettes de sureau, dans l'experience appelée grèle electrique, est très ingénieuse. Mais je ne penserois pas que Volta l'eut proposée sérieusement, si des physiciens, seduits par sa reputation bien meritée, n'avoient adopté son système, tandis que d'autres prenoient la peine de la refuter."

*Connexion of Rainy seasons with Disease:* exemplified in the cases in an Hospital.

There fell at the *Havannah*, in seven years, 603¾ in. Fr. of rain: viz. in 1821—131½; in 1822—53½; in 1823—100; in 1824—79½; in 1825—97; in 1826—74; in 1827—68¾ in. The distribution by months was as follows: Average of Jan. 4½ in.—of Feb. 3 in.—of March, 3½ in.—of April, 2⅕ in.—of May, 9½ in.—of June, 23⅓ in.—July, 5½ in.—of Aug. 6½ in.—of Sept. 10¾ in.—of Oct. 10½ in.—of Nov. 4¾ in.—of Dec. 1⅖ in.

From a corresponding table of four thousand and twenty-eight sick, which passed through the hospital in the course of these seven years, it appears that the *months* in which the sick exceeded the monthly mean in number, were those from *May* to *October* inclusive; in which (with the exception of two) the rain was *above* the monthly average of seven inches. And the two exceptions lying between months which have rain in excess, and following the highest amount of rain, [in June,] seem to be accounted for on the principle that disease may be continued, by infection, after the atmospherical predisposing causes may have ceased to act.

Again, the *years* in which the rain was above the annual mean of 76⅓ in. are mostly those in which the sick *exceeded* the annual number of five hundred and seventy-five cases.

In both of these accounts the *temperature* is not to be left out of the question. The *annual* mean being 25·6° Cent.: that of the *winter* is 21·8°—of the *summer*, 28·5°: the number of sick, in seven years, being, on an average, for the winter two hundred and eighteen, and for the summer three hundred and fifty-seven. Yet it is not at all probable, that the heat, *without the moisture*, would cause this difference; but rather that it would constitute the more healthy season.—Translated and abridged from *Bibl. Universelle*, 14me, année, page 33.

### Whirlwind.

*The Leeds Intelligencer* says:—"On Saturday last, [May 24th?] between three and four o'clock in the afternoon, a whirlwind passed for a considerable way up the course of the Wharf, to the northward of Bolton Abbey, and in the immediate vicinity of Bolton Park. About a quarter of an hour before, several claps of thunder were heard to the westward; but the violence of the storm seemed to be at some distance, and to pass off in a northerly direction. Heavy rain, but of short continuance, succeeded. The writer of this account was at the time near the wooden bridge leading to the park, and took shelter under it; but apprehensive lest the iron-work of the bridge might attract the electric fluid, he removed to a covered seat near the entrance of the Strid Wood. Here he had not been more than four or five minutes, when a loud noise was heard in the valley below, very much like the rumbling of a number of carriages on a rugged road; and, indeed, he first supposed that it really was occasioned by a number of carriages coming from the Abbey with visitors to the woods. None, however, appeared, and yet the noise evidently approached nearer and nearer. In this case, feeling a considerable degree of anxiety to ascertain the cause, he looked eagerly around; and, on glancing his eye a little to the left, down the course of the river, he perceived the trees on its banks, about a hundred and fifty or two hundred yards below, most violently agitated, and twisted like bull-rushes in all directions; and some trees torn up by the roots. The phenomenon was thus instantly explained; and he confesses that he was at first seized with a momentary sensation of horror. A desire, however, to observe its desolating progress soon overcame his alarm, and determined him to keep his station. In the mean time, the hurricane moved majestically forward, and passed near him in terrific grandeur. At this moment the vortex of the whirlwind seemed nearer to the opposite bank of the river, and the writer, being convinced that he was in no immediate danger, rose from his seat, in order to have a more distinct view of it, and felt a strange trembling or oscillating kind of motion imparted to the surrounding air, rather than any thing like a continued current. In its progress large branches were wrenched from the trees, and whirled in the air like so many feathers, to an incredible distance. On its entering Strid Wood, the roaring of the tempest, and the crashing of the trees were inexpressibly awful. The guide, who, with a party of strangers, had taken shelter in a covered seat on an eminence in the wood, and had a better opportunity of witnessing its progress, describes the scene at this time as altogether terrific. The collected force of the whirlwind met the opposing torrent of the Wharf, and having dammed up the river in a breast, several feet high, instantaneously dashed the accumulated water, with leaves and large branches of trees, in indiscriminate confusion, into the air, three or four hundred feet perpendicular; so that it might have been visible at some miles distant. From enquiries made, the hurricane seems to have continued its course up the river for about a mile, and then to have exhausted its fury.—*P. L. June* 5.

| 1828. | Wind. | Barometer. | | By Clock. | | Temp. | | Med. | Evap | Rain, &c. |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Max. | Min. | Max. | Min. | Max. | Min. | | | |
| 6mo.June1 | NW | 29·90 | 29·87 | 29·90 | 29·70 | 74° | 53° | 63·5 | — | 6 |
| 2 | NW | 29·95 | 29·90 | 29·83 | 29·71 | 70 | 49 | 59·6 | — | — |
| 3 | SW | 29·95 | 29·55 | 29·80 | 29·30 | 65 | 45 | 55· | — | 30 |
| 4 | SW | 29·55 | 29·20 | 29·30 | 29·12 | 66 | 46 | 56· | — | 67 |
| 5 | NW | 29·55 | 29·20 | 29·55 | 29·23 | 61 | 51 | 56· | — | — |
| 6 | NW | 29·95 | 29·55 | 30·00 | 29·55 | 66 | 48 | 57· | — | 15 |
| 7 | NW | 30·18 | 30·15 | 30·10 | 30·00 | 62 | 48 | 55· | — | |
| 8 | NW | 30·25 | 30·18 | 30·19 | 30·10 | 69 | 49 | 59· | — | |
| 9 | NW | 30·30 | 30·25 | 30·19 | 30·18 | 74 | 52 | 63· | — | |
| 10 | NW | 30·30 | 30·25 | 30·18 | 30·10 | 70 | 57 | 63·5 | ·96 | |
| 11 | NW | 30·25 | 30·25 | 30·19 | 30·14 | 70 | 48 | 59· | — | |
| New M. 12 | NW | 30·27 | 30·25 | 30·24 | 30·19 | 70 | 45 | 57·5 | — | |
| 13 | Var. | 30·27 | 30·27 | 30·24 | 30·22 | 82 | 44 | 63· | — | |
| 14 | E | 30·27 | 30·13 | 30·25 | 30·15 | 78 | 53 | 65·5 | — | — |
| 15 | E | 30·13 | 30·00 | 30·15 | 29·94 | 76 | 58 | 67· | — | — |
| 16 | E | 30·00 | 29·50 | 29·94 | 29·49 | 78 | 51 | 64·5 | — | — |
| 17 | NE | 29·50 | 29·30 | 29·50 | 29·48 | 78 | 54 | 66· | — | — |
| 18 | NE | 29·95 | 29·30 | 29·80 | 29·52 | 74 | 53 | 63·5 | ·96 | 24 |
| 19 | W | 30·00 | 29·95 | 29·87 | 29·80 | 78 | 54 | 66· | — | |
| 20 | SW | 30·00 | 29·85 | 29·84 | 29·70 | 76 | 55 | 65·5 | — | 52 |
| 21 | NW | 29·90 | 29·85 | 29·85 | 29·70 | 72 | 54 | 63· | — | 8 |
| 22 | W | 30·07 | 29·90 | 30·10 | 29·85 | 72 | 52 | 62· | — | 1·35 |
| 23 | NW | 30·32 | 30·07 | 30·25 | 30·10 | 74 | 54 | 64· | — | |
| 24 | NW | 30·33 | 30·32 | 30·25 | 30·22 | 75 | 50 | 62·5 | — | |
| 25 | NW | 30·40 | 30·33 | 30·30 | 30·22 | 82 | 54 | 68· | — | |
| 26 | NW | 30·40 | 30·31 | 30·27 | 30·13 | 84 | 53 | 68·5 | ·80 | |
| 27 | E | 30·31 | 30·06 | 30·13 | 30·07 | 85 | 52 | 68·5 | — | |
| 28 | E | 30·06 | 30·01 | 30·07 | 29·95 | 85 | 55 | 70· | — | |
| 29 | SE | 30·30 | 30·01 | | | 87 | 54 | 70·5 | — | |
| 30 | N | 30·30 | 29·99 | | | 86 | 53 | 69·5 | ·65 | |
| | | 30·40 | 29·20 | 30·30 | 29·12 | 87 | 44 | 63·05 | 3·37 | 3·37 |

Notes.—Sixth Mo. 1. Fine. 2. Showery. 3. Cloudy. 4. Rain a. m. 5. Showery. 6. Stormy and hail: violent storm about noon, followed by thunder. 7. Cloudy. 8. Fine. 9. Cloudy and fine. 10—12. Cloudy. 13, 14. Fine. 15. Cloudy and fine. 16. Fine. 17. Cloudy and fine. 18. Cloudy, fine: thunder-storm half-past six p. m. 19. Fine. 20. Fine day: rainy night. 21. Fine. 22. Rainy: very heavy at eleven a. m.: at a quarter before three p. m. a tremendous storm of thunder, lightning, rain, and hail, which continued more than an hour.

## RESULTS.

Winds: N, 1; NE, 2; E, 5; SE, 1; SW, 3; W, 2; NW, 15; Var. 1.

| | | |
|---|---|---|
| Barometer: | Greatest height | 30·40 in. |
| | Least | 29·20 in. |
| | Mean | 30·011 in. |
| Thermometer: | Greatest height | 87° |
| | Least | 44° |
| | Mean | 63·05° |
| Evaporation | | 3·37 in. |
| Rain | | 3·37 in. |
| [Clock Barometer at *Ackworth*, | Max. | 30·30 in. |
| | Min. | 29·12 in. |
| | Mean | 29·931 in. |

This Mean includes two days from the Barometer at the School: viz. 29, 29·98, 29·97; 30, 29·97, 29·83.]

*Cold at Midsummer within the Tropic.*

*Island of Oahee, in N. lat.* 21° 15′, *June* 23.—"Were you sitting with us this evening, you would scarce believe yourself in the torrid zone, and that too at midsummer. The wind howls around us as boisterously, if not as coldly, [this must be understood as to feeling only,] as it does through the colonnades of your own mansion, when a northern storm sweeps down the lake on a winter's night. We have been obliged to close all our doors and windows, and resort to woollen garments to keep ourselves comfortable. The whole day has been blustering, gloomy, and wet, similar to the weather of March in America; and such as in this climate, especially at Lahaina, is seldom known."

"The climate of these islands is far more cool than might be supposed, judging from the latitudes in which they are situate. This is partly owing to the vast unbroken body of water by which they are surrounded; but principally, and more immediately to the prevalence of the NE trade-wind, which, during the greater portion of the year, sweeps over and about them with great velocity: and from the direction in which it comes, and the surface over which it passes, has no inconsiderable refrigerative power. In the trade-wind, Fahrenheit's thermometer in the shade seldom rises higher than 82° during the summer, and 74° in winter."—*Stewart's Voyage*, p. 306.

| 1828. | Wind. | Barometer. | | By Clock. | | Temp. | | Med. | Evap | Rain, &c. |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Max. | Min. | Max. | Min. | Max. | Min. | | | |
| 7mo.July1 | E | 29·99 | 29·98 | | | 80° | 62° | 71· | — | — |
| 2 | SW | 29·98 | 29·97 | | | 81 | 63 | 72· | — | — |
| 3 | SW | 29·97 | 29·85 | | | 87 | 65 | 76· | — | 80 |
| 4 | SW | 29·90 | 29·85 | 29·70 | 29·61 | 84 | 62 | 73· | — | — |
| 5 | SW | 29·90 | 29·87 | 29·63 | 29·59 | 78 | 58 | 68· | — | — |
| 6 | NW | 29·90 | 29·89 | 29·71 | 29·63 | 78 | 54 | 66· | — | — |
| 7 | S | 29·89 | 29·67 | 29·71 | 29·63 | 80 | 56 | 68· | ·94 | |
| 8 | SE | 29·67 | 29·50 | 29·63 | 29·44 | 89 | 63 | 76· | — | 11 |
| 9 | SW | 29·56 | 29·50 | 29·60 | 29·40 | 68 | 50 | 59· | — | 80 |
| 10 | NW | 30·00 | 29·56 | 29·77 | 29·60 | 68 | 53 | 60·5 | — | 5 |
| 11 | W | 30·00 | 29·50 | 29·76 | 29·37 | 78 | 60 | 69· | — | 45 |
| New M. 12 | NW | 29·50 | 29·35 | 29·37 | 29·02 | 70 | 53 | 61·5 | — | 87 |
| 13 | SW | 29·45 | 29·35 | 29·18 | 29·02 | 68 | 52 | 60· | — | 5 |
| 14 | W | 29·45 | 29·40 | 29·44 | 29·18 | 70 | 51 | 60·5 | — | 38 |
| 15 | SW | 29·75 | 29·45 | 29·67 | 29·44 | 74 | 53 | 63·5 | — | 45 |
| 16 | W | 29·75 | 29·70 | 29·66 | 29·51 | 78 | 53 | 65·5 | — | 7 |
| 17 | W | 29·70 | 29·55 | 29·51 | 29·40 | 78 | 60 | 69· | — | |
| 18 | SE | 29·55 | 29·48 | 29·40 | 29·30 | 78 | 59 | 68·5 | ·95 | — |
| 19 | SW | 29·55 | 29·30 | 29·37 | 29·30 | 77 | 52 | 64·5 | — | |
| 20 | W | 29·40 | 29·30 | 29·30 | 29·20 | 76 | 54 | 65· | — | 45 |
| 21 | W | 29·45 | 29·40 | 29·32 | 29·25 | 76 | 53 | 64·5 | — | 1·02 |
| 22 | NW | 29·62 | 29·45 | 29·48 | 29·32 | 74 | 50 | 62· | — | 7 |
| 23 | NW | 29·62 | 29·60 | 29·49 | 29·48 | 70 | 51 | 60·5 | — | 28 |
| 24 | SW | 29·60 | 29·50 | 29·48 | 29·40 | 78 | 54 | 66· | — | 3 |
| 25 | SW | 29·70 | 29·50 | 29·57 | 29·40 | 76 | 55 | 65·5 | — | 7 |
| 26 | SW | 29·75 | 29·70 | 29·70 | 29·56 | 74 | 52 | 63· | — | 10 |
| 27 | NW | 30·30 | 29·75 | 29·90 | 29·70 | 74 | 54 | 64· | — | — |
| 28 | NW | 30·30 | 29·92 | 29·89 | 29·77 | 72 | 50 | 61· | ·96 | |
| 29 | NW | 29·92 | 29·91 | 29·77 | 29·72 | 72 | 51 | 61·5 | — | 10 |
| 30 | N | 29·99 | 29·91 | 29·87 | 29·77 | 64 | 50 | 57· | — | |
| 31 | NW | 30·00 | 29·99 | 29·86 | 29·76 | 74 | 54 | 64· | ·34 | |
| | | 30·30 | 29·30 | 29·90 | 29·02 | 89 | 50 | 65·34 | 3·19 | 6·15 |

Notes.—Seventh Mo. 1—3. Fine. 4. Cloudy. 5. Fine. 6. Cloudy. 7, 8. Fine. 9. Rainy. 10, 11. Fine. 12. Rainy. 13. Rainy morning. 14. Showery. 15. Showery. 16, 17. Fine. 18. Showery. 19. Fine. 20. Rainy p. m. 21. Rainy evening and night. 22, 23. Showery. 24. Cloudy. 25. Fine. 26. Showery. 27. Cloudy. 28. Fine. [I believe the maximum 30·30 in. here twice given, to be an error in the noting, for 30·03.—L. H.] 29. Showery. 30, 31. Fine.

## RESULTS.

Winds: N, 1; E, 1; SE, 2; S, 1; SW, 11; W, 6; NW, 9.

| | | |
|---|---|---|
| Barometer: | Greatest height | 30·30 in. |
| | Least | 29·30 in. |
| | Mean | 29·714 in. |
| Thermometer: | Greatest height | 89° |
| | Least | 50° |
| | Mean | 65·34 in. |
| Evaporation | | 3·19 in. |
| Rain | | 6·15 in. |
| [Clock Barometer at *Ackworth:* | Max. | 29·90 in. |
| | Min. | 29·02 in. |
| | Mean | 29·551 in. |

In which are included the following from the Barometer at the School, viz. 1, 29·83, 24·74; 2, 29·76, 29·74; 3, 29·78, 29·76.]

See the *Notes,* for a remark on the maximum of the barometer at Stratford. Enormous as is the quantity of rain here recorded for a single month, it was exceeded at Ackworth, where we had in this month *above nine inches;* and one consequence of the moist, sultry atmosphere, which prevailed during the whole summer, was the prevalence of typhus fever at the school, [*introduced,* undoubtedly, by infection,] of which there died six persons—a master, the nurse of the schools, and four children. I shall insert, hereafter, some remarks on the subject, which I communicated to Dr. Williamson of Leeds, the physician last called in on the occasion.

For the sake of an important meteorological fact, as well as to record my connexion in cordial friendship with the author, I shall give a place to the following letter.—L. H.

My dear Sir,

As I have my journal at hand, I will give you a few entries, though probably of no worth, further than making them (it may be) some evidence of my sincere esteem and respect for you.

1828, June 18.—Wednesday. Sailed from Whitby for the Zetland isles: light winds: much rain in the night.

June 19.—Thursday. Much rain in the night: cleared up about 10 a. m. and had an observation, lat. 55°, 33′.

June 20.—Friday. Very fine weather. Observation, lat. 57°, 58′.

June 21.—Saturday. A very thick universal *haze* all the morning: discovered land; turns out to be *Sumbro' Head,* the most southern point of the *Mainland* of *Zetland.* Invariably fine weather from this

to the end of the month, except now and then a haze, which is frequent in Zetland.

June 30.—Monday. In *Burra Voe*, South Yell, the country people came alongside with live stock. A *lamb* in good case 2s. 6d.; a young *calf* 1s. 6d; *ducks* 6d. each; *hens* a groat; *cocks*, full grown, 2d. *milk* 1d. per quart; *eggs* 2d. per doz.; *piltocks*, (nearly as large as herrings,) 1d. per score; a *scath*, (the cole fish,) from twenty to thirty pounds weight, *one penny*; *halibut*, thirty pounds weight, 1s. 6d.

July 2.—Wednesday. *Uya Sound*, rain in the night: day fine.

July 4.—Friday. In *Balta Sound*, close in by the island of *Unst*, about N. lat. 59°, 57′: fine weather: therm. 59°.

July 5.—Saturday. Cold weather, but pretty clear: therm. 55°.

July 8.—Tuesday. In the *Greenland Seas*, lat. 61°, 12′. On this line, (long. 52° west from Greenwich) not a foot of land to the north pole: no soundings.

July 9.—Wednesday. Fine clear weather; no night—can easily read my small Leusden's Hebrew Bible at the midnight hour: have weathered the *Scaw of Unst*, and now begin to return *southward*, down the *western coasts of Zetland*. Reached *Housa Voe* in the Island of *Tapa Stour:* fine warm weather.

July 11.—Friday. Landed on the Island of *Foula*, the *Ultima Thulé* of the ancients: weather clear and fine, and the sea (a most unusual thing here) as calm as a well: a series of fine weather for several days.

July 15.—Tuesday. *Thermometer* at the extraordinary height of 90° in the *sun*, and stood at 82° in the *shade:* then in *Bressa Bay*, the whole day oppressively hot.

July 18.—Friday. At sea, stormy for the English coast: a storm: driven into the *Moray Frith*, and got a-breast of Banff: fore-sail torn; main-sheet rent, &c.

July 22.—Tuesday. Heavy rain in the night: saw the Tynemouth lights, and at 10 p. m. entered the pier at Whitby, grati Deo: were surprised to find the country flooded, and rivers running down the hills, in different places, into the sea. On comparing, found *that we had generally fair weather, both in the North and Greenland Seas, when there had been continual rains in England.*

Wishing you health, prosperity, and every blessing of God our Saviour,

I am yours, truly and affectionately,

ADAM CLARKE.

*Stoke Newington, Nov. 7*, 1828.

To Luke Howard, Esq.
Mr. Eliot's,
59, Bartholomew Close.

## Extensive Rains.

On Tuesday afternoon, the 8th instant, about four o'clock, a storm of wind, rain, and hail, accompanied with thunder and lightning, broke over the town and neighbourhood of *Taunton*, with a degree of violence never before remembered by the oldest inhabitant. The thunder, in heavy peals, was heard simultaneously from the east and west, and the wind, at one period of the storm, blew a perfect hurricane. At Kingston, the banks were thrown down for several miles; and three rams, the property of Mr. Welch, valued at thirty pounds, were killed by the lightning. The corn is sadly levelled by the storm. The hailstones were of uncommon thickness, and in their descent destroyed much glass in the windows of private dwellings and outhouses. Various statements of mischief have reached us from our correspondents for many miles round, all representing the storm to have been of unqualified violence.—*Taunton Courier.*

The inundations occasioned by the constant heavy rains in Flintshire and Denbighshire have proved most injurious, and in some instances destructive to the iron-works in those counties. The Coed Talon works, belonging to the Welsh Iron Company, have sustained very considerable injury; the bridges, dams, and culverts, belonging to those works, were all carried away by the tremendous torrents and bursting of the springs. On Thursday night week the waters in the immediate vicinity of the works rose to the extraordinary height of twenty-two feet above their ordinary level, and in a few hours extinguished the furnaces: such was the impetuosity of the flood, and the influence of opposing elements of fire and water, that the most serious apprehensions were entertained that the furnaces would have been blown into the air. Happily the buildings sustained the shock, and no lives have been lost. It is stated by the oldest inhabitants in the neighbourhood, that such awful effects from impetuous torrents were never before witnessed by them.

Throughout a great part of Oxfordshire and Worcestershire, the wheat and barley have suffered considerably by the late heavy rains.

Friday afternoon a solitary dark cloud passed over the north end of Winchester towards the valley of Itchen Abbas, the sun shining from the opposite part of the horizon. The spot whereon the cloud appeared to rest, seemed to be enveloped in total darkness, whence shot a stream of electric fluid, accompanied by a short but tremendous crash of thunder, and hailstones of considerable magnitude. So violent was its force that it killed two fine horses, belonging to Mr. Twitchen, of Itchen Abbas, and struck the carter to the ground, where he lay in a state of insensibility for some time; his frock was singed by the lightning. About the same time a cottage, occupied by the shepherd of Mr. Twitchen's brother, at Mitcheldever, experienced its violence by being greatly shattered, and the shepherd's wife struck instantly dead. During the same day three horses belonging to Mr. Budd, of Hatch Warren Farm, near Basingstoke, were struck dead by the electric fluid, and a man who had charge of them was so dreadfully injured as to render recovery hopeless.—*Bath Chronicle.*

*Sussex.*—The accounts from the western part of this county, both on the coast and in the weald, concur in stating that the effects of the thunder-storm of the 3d instant were most severely felt. So severe a storm has not been experienced since 1821. The storm on the evening of Thursday se'nnight was most violent in the neighbourhood of Chichester, and lasted from eight in the evening till nearly four in the morning—the electric fluid entered a cottage at Birdham and shivered a bedstead, rolling its occupier, with the bed, on the floor, *but who escaped without injury.—Brighton Herald.*

The almost constant rain which has been experienced in *Penzance* and its neighbourhood, has been very detrimental to the hay harvest.—*West Briton. P. L. July* 15.

We regret to state that the floods in this neighbourhood still continue, and the waters indicate by their colour how great the mischief is amongst the hay. The Welland and the Nene are of the hue of strong tea, proceeding from the *essence* of the hay, which is entirely washed out of whatever was not stacked before the 10th instant.—*Stamford Mercury.*

*Cambridge.*—The late heavy rains in this part of the county have laid and much injured the corn crops, and likewise considerably impeded the hay harvest.—*Bury Herald, July* 17.

*Sheffield.*—In our last publication we alluded to the long continuance of hot weather which had been experienced in this neighbourhood. On Tuesday, however, a change took place, and on Wednesday the rain fell more heavily and incessantly than it is remembered to have done at the same season for several summers past. Indeed, not only were our two rivers remarkably high, but the springs of many wells, which had failed at the usual time, experienced a temporary refluviation.—*Sheffield Iris, July* 17.

*Malton, July* 17.—Every hour brings fresh accounts of the extensive losses sustained by the occupiers of land bordering on the Rye and Derwent. Hay has been floating in swarth, and in cock of all sizes, and the loss in various kinds of grain and potatoes is incalculable. Such a weight of rain and such a flood were never known at this season of the year.

On Sunday morning last *Sunderland* was visited by a thunder-storm. The lightning was remarkably vivid, the peals of thunder were tremendous, and the rain fell in torrents. The Wear was also much swollen. Great quantities of hay came down the river. From our correspondent at Durham, dated Sunday afternoon :—"Since early on Saturday morning, Durham and the neighbourhood have been visited with a succession of heavy rains, insomuch that the river Wear is swollen to a dreadful height, and has done, and is still doing frightful damage to the adjacent fields, which are overflown to the extent of many hundreds of acres; many of which are meadow, some just mown, some in pike, and some standing uncut.—*Tyne Mercury. P. L. July* 17.

*Doncaster, July* 19.—I have within a few days been over a considerable tract of land in this and the adjoining county, for the purpose of ascertaining the effects of the late floods on the crops. A great portion of the country through which the Derwent runs, as well as the other rivers which empty themselves into the Humber, has been overflowed to a very considerable depth, and the consequence has been, the complete destruction of the greater part of the grass, which was cut, and those crops which were not cut, will not be worth the trouble.

We regret to state that in this town and neighbourhood the weather has continued extremely unfavourable throughout the week. Scarcely a day has passed in which we have not been visited by heavy falls of rain, accompanied in some instances with thunder and lightning. We have not heard of any further injury being done in the vicinity by floods; but we fear that the wheat and other crops, as well as fruit and vegetables, will suffer greatly from the long continuance of wet weather.—*Manchester Mercury.*—*P. L. July* 20.

Although within the last few days several thunder storms have fallen in this immediate neighbourhood, we have not heard of any serious injury to life or property. On Wednesday week [9th?] at Great Houghton, during a thunder-storm, the lightning descended through the sky-light, which it destroyed, in the roof of Mr. Brook's house, and through the ceiling, into an upper apartment, *and*

*shook down the tester of the bed on which Mrs. Brook was reposing, without however inflicting any injury, further than the alarm into which she would naturally be thrown.* Its course was then along a passage, in which there was a cupboard, whose contents of glass and earthenware were partly demolished, and the door of the cupboard dashed along the passage, at the extremity of which was a young female, who happily escaped unhurt.—*Doncaster Gazette. P. L. July* 21.

*Newark, July* 21.—You cannot possibly have an idea of the effects of the late stormy weather, and the consequent inundation of the large tract of country, unless you were to see it. All the country from this place, situated on the banks of the Trent, down to the Humber, has been completely overflown, and has borne the appearance of one expansive sea.

*Bedford, July* 22.—In consequence of the dreadful and continued rains, every thing in the neighbourhoad of this town is in the most frightful state. The Ouse has overflowed its banks in every direction, as well below as above the bridge; and for miles nothing is to be seen but a weary waste of waters, with islands of hay or haycocks.

The early season for hay gathering in the northern counties was favourable in the extreme, and a great quantity of hay out of the abundant crop was secured in capital condition. About the middle of the last week the barometer sunk rapidly, and torrents of rain fell day after day, till the rivers became swollen, and on Sunday and Monday last vast tracts of land, particularly in the south-east part of this county, extending from Doncaster to Hull, were inundated. Even in the neighbourhood of Wakefield the hay was seen floating in the fields; and near Barnsley, a great deal was either washed away or rendered useless, except for litter. The corn crops have also been much beaten down by the heavy rains, and potatoes in low situations have suffered from the floods.—*Leeds Mercury.*

*Whitby.*—From the 8th to the 13th instant a succession of heavy rains has been experienced at Whitby and its neighbourhood, which did considerable damage to the bridges on the Esk. On Sunday morning, the platform of the elegant suspension-bridge at Ruswarp, belonging to James Wilson, Esq. M. P. was wrenched from its abutments, and, together with the cast-iron pillars, was thrown into the stream. The small stone bridge, recently erected by Edmund Turton, Esq. on the new line of road, was also carried away; likewise a bridge at Cock-mill, and another in the neighbourhood of Egton. The neat bridge at East Row, has been so far injured as to be passable only by foot passengers; great quantities of timber, hay, &c. were washed away, and the fields and gardens completely flooded.

From all parts of the country accounts pour in of the disastrous effects produced by the late uncommonly heavy rains. From Ganstead and Withernwick, in Holderness, to beyond Driffield, a distance of from twenty-five to thirty miles, the country presents an almost unbroken sheet of water. The quantity of hay, corn, and potatoes destroyed, and likely to be so, is beyond all calculation; thousands of acres of the latter are literally rotting in the ground. From Doncaster down to Gainsborough, and the low grounds at the junction of the Ouse and Trent, the inundation is stated to have been still more destructive than in this immediate neighbourhood.—*Hull Advertiser.*

The south-western districts of Scotland appear to have been visited by the same excessive quantity of rain that has been experienced so generally over England. It would appear, too, that the crops there are in general good, and that the wheat, in particular, promises to turn out better than in the south.—*July* 30.

| 1828. | Wind. | Barometer. | | By Clock. | | Temp. | | Med. | Evap | Rain, &c. |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Max. | Min. | Max. | Min. | Max. | Min. | | | |
| 8moAug.1 | NW | 30·00 | 29·70 | 29·76 | 29·50 | 76° | 56° | 66· | — | |
| 2 | NW | 29·70 | 29·50 | 29·50 | 29·30 | 72 | 53 | 62·5 | — | 12 |
| 3 | NW | 29·51 | 29·50 | 29·30 | 29·22 | 72 | 54 | 63· | — | 26 |
| 4 | NW | 29·53 | 29·51 | 29·31 | 29·29 | 71 | 52 | 61·5 | — | 11 |
| 5 | NW | 29·51 | 29·40 | 29·37 | 29·30 | 73 | 54 | 63·5 | — | |
| 6 | S | 29·40 | 29·33 | 29·33 | 29·23 | 74 | 53 | 63·5 | — | 30 |
| 7 | W | 29·53 | 29·40 | 29·43 | 29·33 | 75 | 52 | 63·5 | — | 19 |
| 8 | SW | 29·53 | 29·35 | 29·43 | 29·00 | 76 | 53 | 64·5 | — | 13 |
| 9 | SW | 29·54 | 29·53 | 29·22 | 28·92 | 72 | 52 | 62· | — | — |
| New M.10 | SW | 29·64 | 29·53 | 29·40 | 29·22 | 71 | 54 | 62·5 | — | 12 |
| 11 | SW | 29·75 | 29·64 | 29·58 | 29·37 | 72 | 53 | 62·5 | 96 | 32 |
| 12 | NW | 29·82 | 29·75 | 29·64 | 29·58 | 70 | 49 | 59·5 | | |
| 13 | SE | 29·82 | 29·47 | 29·65 | 29·60 | 72 | 48 | 60· | | 1·10 |
| 14 | NE | 29·83 | 29·47 | 29·75 | 29·60 | 56 | 43 | 49·5 | | 5 |
| 15 | NW | 29·98 | 29·83 | 29·80 | 29·70 | 65 | 46 | 55·5 | | |
| 16 | NW | 29·98 | 29·92 | 29·70 | 29·57 | 74 | 59 | 66·5 | | |
| 17 | SW | 29·93 | 29·92 | 29·64 | 29·58 | 72 | 52 | 62· | | 2 |
| 18 | NW | 30·15 | 29·93 | 29·96 | 29·65 | 70 | 50 | 60· | | |
| 19 | NW | 30·15 | 30·12 | 29·97 | 29·80 | 70 | 49 | 59·5 | | |
| 20 | SW | 30·12 | 29·90 | 29·80 | 29·60 | 76 | 54 | 65· | | |
| 21 | W | 29·90 | 29·70 | 29·60 | 29·40 | 70 | 50 | 60· | | |
| 22 | W | 30·05 | 29·70 | 29·95 | 29·50 | 71 | 50 | 60·5 | | 22 |
| 23 | NW | 30·24 | 30·05 | 30·02 | 29·90 | 73 | 46 | 59·5 | | |
| 24 | NW | 30·35 | 30·24 | | | 76 | 52 | 64· | | |
| 25 | NW | 30·42 | 30·35 | | | 79 | 56 | 67·5 | | |
| 26 | SE | 30·42 | 30·39 | | | 78 | 46 | 62· | | |
| 27 | SE | 30·39 | 30·30 | | | 78 | 52 | 65· | | |
| 28 | E | 30·30 | 30·28 | | | 77 | 56 | 66·5 | | |
| 29 | NE | 30·28 | 30·25 | | | 77 | 59 | 68· | | |
| 30 | NE | 30·25 | 30·20 | | | 76 | 54 | 65· | | |
| 31 | NE | 30·20 | 30·06 | | | 68 | 56 | 62· | | |
| | | 30·42 | 29·33 | | | 79 | 43 | 62·34 | | 2·94 |

NOTES.—Eighth Mo. 1. Fine. 2—4. Showery. 5. Fine. 6—9. Showery. 10, 11. Showers. 12. Fine. 13, 14. Rainy. 15. Fine. 16. Cloudy and fine. 17—20. Fine. 21. Showery. 22. Stormy: some hail. 23—30. Fine. 31. Overcast.

## RESULTS.

Winds: NE, 4; E, 1; SE, 3; S, 1; SW, 6; W, 3; NW, 13.

| | | |
|---|---|---|
| Barometer: | Greatest height . . . | 30·42 in. |
| | Least . . . . . | 29·33 in. |
| | Mean . . . . . | 29·876 in. |
| Thermometer: | Greatest height . . . | 79° |
| | Least . . . . . | 43° |
| | Mean . . . . . | 62·34° |
| Evaporation in 11 days, from 1st of the mo. | | 0·96 in. |
| Rain . . . . . | | 2·94 in. |

[Clock Barometer at Ackworth, Max. wanting; min. 28·92 in.; Mean, (with eight days supplied from the barometer at the School,) 29·739 in.]

*Deal, Aug.* 9.—The wind has blown very hard the whole of this afternoon: at intervals almost a hurricane. Wind WSW.

*Brixham, (Torbay,) Aug.* 9.—At three o'clock this morning it came on to blow quite a hurricane from the SSW, and continued unabated until four this afternoon, since when it has been more moderate.

*Falmouth, Aug.* 9.—It blew a heavy gale here last night and continued until noon this day, from the SSE to WSW.

*Penzance, Aug.* 9.—The wind has blown a perfect hurricane from SW all this morning. [Accounts of damage.]

*Noon.*—The storm still continues with unabated fury. Great numbers of trees have been blown up by the roots, and many mows of corn in the fields are quite upset, and the sheaves blowing about in all directions.—*P. L.*

A stalk of oats was found in a field on the farm of Logie Mill, which had three branches growing out of the main stem. This is considered a natural curiosity; two branches are often seen on the same stalk, but seldom three. The first branch bore a hundred and sixty-nine grains, the second seventy-one, and the third forty-nine, amounting in all to two hundred and eighty-nine grains.—*Angus Telegraph.*

The Thames was higher on Wednesday last than has been known at this season for twenty-seven years. All the low land about Goring, Pangbourn, Mapledurham, Caversham, Sonning, &c. was under water.—*Berkshire Chronicle.*

Within the last few days the singular spectacle has been presented of a farmer, whose grounds were flooded, in the neighbourhood of Gainsbro', proceeding in a boat, and cutting off the heads of a crop of wheat, in order to save the grain, leaving the straw under water.—*Durham Advertiser. P. L. Aug.* 26.

### Water Spouts in the Pacific Ocean.

"The natives of the South Sea Islands, although scarcely alarmed at thunder and lightning, are greatly terrified, at sea, by waterspouts. Throughout the *Pacific*, waterspouts of varied form and size are among the most frequent of its splendid phenomena." By the natives of the Society Isles they are called "Huri, huri, tia maona," that is, "Turning, turning, rising upright, the deep," a truly descriptive epithet: Ellis describes some, amidst which he, with the crew of his little bark, was in danger, passing from Eimeo to Raiatea. He saw majestic pillars, as it were supporting the clouds, and conical spouts depending. The black clouds grew darker during this appearance, and he thought he could trace the spiral motion of the water within. On another occasion, on board ship, the outside was surrounded by a thick mist; and within, a substance resembling steam ascended, apparently with a spiral movement, while the spray thrown out at the base of the column, rose apparently twenty feet above the water. *Polynesia*, vol. i. 487.

| 1828. | Wind. | Barometer. | | By Clock. | | Temp. | | Med. | Evap | Rain, &c. |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Max. | Min. | Max. | Min. | Max. | Min. | | | |
| 9 mo. Sep. 1 | NE | 30·10 | 30·06 | | | 70° | 54° | 62· | — | — |
| 2 | NE | 30·13 | 30·10 | | | 73 | 47 | 60· | — | |
| 3 | NE | 30·13 | 30·12 | 30·00 | 29·95 | 71 | 54 | 62·5 | — | |
| 4 | NE | 30·12 | 30·06 | 29·95 | 29·89 | 74 | 50 | 62· | — | — |
| 5 | SE | 30·13 | 30·06 | 29·97 | 29·90 | 77 | 46 | 61·5 | — | |
| 6 | SE | 30·13 | 30·10 | 29·95 | 29·90 | 77 | 58 | 67·5 | — | |
| 7 | SE | 30·10 | 30·00 | 29·90 | 29·78 | 78 | 56 | 67· | — | |
| 8 | SE | 30·00 | 29·87 | 29·78 | 29·55 | 80 | 60 | 70· | — | 22 |
| New M. 9 | SW | 29·87 | 29·82 | 29·74 | 29·60 | 76 | 50 | 63· | — | |
| 10 | E | 29·82 | 29·55 | 29·65 | 29·27 | 70 | 51 | 60·5 | — | 30 |
| 11 | SW | 29·55 | 29·47 | 29·30 | 29·15 | 74 | 60 | 67· | — | 20 |
| 12 | SW | 29·53 | 29·47 | 29·50 | 29·10 | 70 | 56 | 63· | — | 16 |
| 13 | W | 29·98 | 29·53 | 29·98 | 29·50 | 72 | 44 | 58· | — | 28 |
| 14 | NE | 30·39 | 29·98 | 30·34 | 29·98 | 70 | 39 | 54·5 | — | 3 |
| 15 | NE | 30·72 | 30·39 | 30·50 | 30·34 | 66 | 38 | 52· | — | |
| 16 | E | 30·72 | 30·53 | 30·48 | 30·30 | 67 | 37 | 52· | — | |
| 17 | E | 30·53 | 30·12 | 30·30 | 30·00 | 67 | 50 | 58·5 | — | |
| 18 | E | 30·15 | 30·12 | 30·00 | 29·96 | 64 | 44 | 54· | — | |
| 19 | SE | 30·30 | 30·15 | 30·10 | 30·00 | 74 | 42 | 58· | — | |
| 20 | E | 30·30 | 30·20 | 30·10 | 29·98 | 72 | 39 | 55·5 | — | |
| 21 | SE | 30·20 | 30·03 | 29·98 | 29·80 | 68 | 38 | 53· | — | |
| 22 | SE | 30·19 | 30·03 | 29·95 | 29·80 | 66 | 50 | 58· | — | |
| 23 | NW | 30·19 | 30·19 | 29·95 | 29·83 | 60 | 44 | 52· | — | |
| 24 | SW | 30·19 | 30·00 | 29·83 | 29·63 | 72 | 52 | 62· | — | |
| 25 | SW | 30·00 | 29·82 | 29·63 | 29·55 | 75 | 50 | 62·5 | — | |
| 26 | W | 29·90 | 29·82 | 29·72 | 29·63 | 81 | 55 | 68· | — | 21 |
| 27 | NW | 29·90 | 29·82 | 29·70 | 29·50 | 61 | 50 | 55·5 | — | 48 |
| 28 | SW | 29·82 | 29·53 | 29·50 | 29·15 | 65 | 46 | 55·5 | — | 39 |
| 29 | SW | 29·70 | 29·53 | 29·40 | 29·08 | 61 | 46 | 53·5 | — | 19 |
| 30 | SW | 29·70 | 29·54 | 29·41 | 29·30 | 68 | 48 | 58· | — | 11 |
| | | 30·72 | 29·47 | 30·50 | 29·08 | 81 | 37 | 59·55 | | 2·57 |

NOTES.—Ninth Mo. 1. Cloudy. 2—8. Fine. 9. A heavy thunder-storm, two a. m. 10. Showery: some thunder, p. m. 11. Showers. 12. Fine: showers at night. 13. Showery. 14. Showers. 15—21. Fine. 22. Cloudy and fine. 23—26. Fine. 27. Rainy. 28—30. Showery.

## RESULTS.

Winds: NE, 6; E, 5; SE, 7; SW, 8; W, 2; NW, 2.

| | | |
|---|---|---|
| Barometer: | Greatest height | 30·72 in. |
| | Least | 29·47 in. |
| | Mean | 29·825 in. |
| Thermometer: | Greatest height | 81° |
| | Least | 37° |
| | Mean | 59·55° |
| Evaporation | | (not entered.) |
| Rain | | 2·57 in. |

[Clock Barometer at *Ackworth*, max. 30·50 in.; min. 29·08 in.; mean (with two days supplied,) 29·807 in.]

*Winchester*, *Sept.* 13.—A violent hurricane passed over this city at about two o'clock last Thursday morning. It extended, as can be distinctly traced, about thirty yards only in width, and proceeded in a direct line from south to north, occupying no more than about seven or eight minutes in its passage. Not to mention casements, tiles, and chimnies, which were thrown down, and carried long distances, it may be sufficient, as an instance of its impetuosity, to describe briefly its ravages in the cathedral church-yard. Two of the stately lime-trees there, standing at the north and south sides of the inclosure, opposite each other, and in the exact line of the storm, were entirely stripped of their leaves; and the whole of their upper branches, although many inches in diameter, broken off and carried away. *One half* of the next tree to each of these is mangled in precisely the same manner, while the other half, and all the rest of the trees, remain uninjured. The limbs which fell, snapped off the tomb stones below like glass, and on the northern side did considerable damage to the roofs of the adjoining houses. Passing on to Worthy, about two miles hence, it produced similar effects.

*Gravesend*, *Sept.* 12.—Gravesend, Tilbury Fort, and Cobham, were never visited by a more destructive storm of thunder, lightning, and hail, than on the nights of Wednesday and Thursday last. The rain came on in torrents on Wednesday, and continued till two o'clock on Thursday morning, accompanied by vivid flashes of forked lightning, which played upon the waters and the hills in awful style. The wind, it appears, was in a southerly direction, and blew exceedingly violent. Hail-stones showered down of such dimensions as were never before seen in that part of the country, and the damage which has been sustained in consequence, and more especially to the inhabitants of Cobham and its vicinity, is almost incredible.—*Record.*

*Brighton*, *Sept.* 13.—The sea was so rough that the Portsmouth packet was unable to land its passengers at the chain-pier, and it was necessary to send out boats to bring them on shore. During the night it blew a regular gale. The wind, which was WSW, continued this morning with unabated fury.

Aurora Borealis.—On the evening of Monday week, [15th,] between nine and ten o'clock, one of the most beautiful of these phenomena ever seen was visible here. The air was still, the sky unclouded, the stars brilliant, and the ba-

rometer exceedingly high, 30·5 inches. While a circle of bright light, without coruscations, spread over the north-west quarter of the heavens, the highest part about 10° above the horizon, and the centre of it the magnetic pole, beautiful streams of electric light rose up, the one from the WSW point of the heavens, and at the same time another from the ENE, and, darting to the zenith, spread as they advanced, into a beautiful and connected arch of light, its greatest height being a few degrees to the south of the zenith. When complete it had the form of a ribbon extended in the centre, but narrowed or twisted at the ends. The centre spread out several degrees in breadth, in the finest and softest sheet of light, resembling the milky way, and through it in every part the stars were distinctly visible. From the horizon on each side the rays of light darted upwards with inconceivable rapidity; but towards the zenith they spread like a white cloud, with very little motion. After continuing a considerable time, it entirely and rapidly disappeared. We have frequently seen similar phenomena at this season of the year; but when seen, the rays of light in them always darted from one point of the heavens to the point opposite: in this instance, however, the rays of light darted equally from opposite points of the horizon upwards to the zenith. The moon, about the close of her first quarter, had set before the aurora made its appearance.—*Glasgow Courier.*

The present year will be found to have been very unfavourable for bees, owing to the continued rains which fell during the honey-gathering season. Many hives which have been taken, have not yielded two or three pounds of honey, which, had the season been good, might have produced from fifteen to twenty pounds. New swarms are very scarce, owing to the cold weather during the swarming season.—*Bath Chronicle. P. L. Sept.* 19.

Extract of a letter from *Smyrna*, dated Sept. 3.—"Our weather here, for nearly four months, has been raging hot. We have been so long without rain, that I can scarcely fancy it takes place elsewhere. Our last rain was in the month of April, andour next will probably be in October."

## *On the Subtropical Zones.*

Baron Leopold Von Buch has proposed the theory of a Subtropical Zone for meteorology and natural history, distinguished, on one hand, from the torrid by the absence of the true tropical rains, and from the *temperate*, on the other, by the want of the heat requisite to ripen the date and the *carob* tree: extending in the northern hemisphere, from about 20° to 32° N, and in the southern going somewhat more towards the pole.

In these zones the barometer has a variation differing from that in our island, where (as I have shown in *Clim. Lond.)* the mean *weight of the air* is greatest in the summer months; but here it becomes less, from our winter solstice to the summer, *in the northern hemisphere*, and increases for the same period *in the southern*. Thus, at Calcutta, in 22°, 40′ N, and at Benares in 25° 18′N, the barometer is six or seven lines lower in May, June, and July, than in November, December, and January. But at Rio Janeiro, in south lat. 22° 15′ it is about four lines higher during that season than in the opposite part of the

year. Cape Town, in S lat. 33° 15′ shows a difference in the same direction of 2·67 lines; but Santa Fe de Bogota, though on the north side of the equator, follows the law to which the two latter are subject; having however, on account of its very elevated situation, a difference of half a line only.

Humboldt, after making known the observations of Boussingault in Santa Fe, remarks that the progressive decrease and increase of the medium height of the barometer, in different months, which B. was inclined to derive from the greater or lesser *distance* of the sun, occurs again, not only on a greater scale at Rio, but also in the opposite months at the Havannah and Macao; being, in fact, a general effect depending on general causes—on those, to wit, which occasion the trade-winds. He says, "In Palermo, Cadiz, and Mafra, we find no longer the lower mean height in summer, and still less is it found in places having a higher geographical latitude."

The author of the paper in *Jameson's Journal*, from which I have made out this article, offers nothing in solution of the problem of the cause of the barometrical differences; save that it is probable that the regular course of decreasing barometrical heights depend on changes of the wind. Let us consider whether the following may not be admitted, at least as concerned in producing them. While the sun, approaching the tropic of Cancer, brings on our midsummer, the real weight of the atmosphere, in the latitudes of which this article treats, may be decreasing, by the actual loss of vapour decomposed into rain. At the same time there is, (notwithstanding our partaking at times of the tropical disturbance and deposition of water,) an actual increase of weight in our own latitudes, by the gradual increase of the mean heat, and consequent addition of vapour, which vapour is more suddenly parted with in the plentiful rains of our autumn. On the other side of the equator the like effects may be presumed; but in the reverse order.—L. H. (See the fig. in the upper part of the plate facing p. 69 of this vol.)

| 1828. | Wind. | Barometer. | | By Clock. | | Temp. | | Med. | Evap | Rain, &c. |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Max. | Min. | Max. | Min. | Max. | Min. | | | |
| 10m.Oct.1 | NW | 29·86 | 29·54 | 29·64 | 29·30 | 63° | 43° | 53· | — | |
| 2 | NW | 30·00 | 29·86 | 29·83 | 29·64 | 64 | 38 | 51· | — | |
| 3 | E | 30·00 | 29·52 | 29·79 | 29·27 | 65 | 44 | 54·5 | — | — |
| 4 | SW | 29·60 | 29·52 | 29·45 | 29·30 | 66 | 45 | 55·5 | — | 7 |
| 5 | SW | 29·52 | 29·20 | 29·35 | 28·92 | 67 | 53 | 60· | — | 37 |
| 6 | W | 29·60 | 29·20 | 29·24 | 28·98 | 66 | 48 | 57· | — | 7 |
| 7 | SW | 29·60 | 29·50 | 29 24 | 28·98 | 64 | 40 | 52· | — | |
| 8 | NW | 30·00 | 29·50 | 29·80 | 29·15 | 61 | 47 | 54· | — | |
| New M. 9 | NW | 30·20 | 30·00 | 29·94 | 29·82 | 60 | 44 | 52· | — | |
| 10 | W | 30·40 | 30 20 | 30·17 | 29·72 | 62 | 48 | 55· | ·48 | — |
| 11 | NW | 30·60 | 30·40 | 30·23 | 30·18 | 66 | 45 | 55·5 | — | |
| 12 | SW | 30·60 | 30·55 | 30·27 | 30·23 | 68 | 42 | 55· | — | |
| 13 | W | 30·55 | 30·50 | 30·30 | 30·22 | 65 | 48 | 56·5 | — | |
| 14 | NW | 30·50 | 30·43 | 30·29 | 30·20 | 61 | 41 | 51· | — | |
| 15 | NW | 30·43 | 30·35 | 30·20 | 30·14 | 56 | 49 | 52·5 | — | |
| 16 | NW | 30·35 | 30·25 | 30·13 | 29·97 | 58 | 50 | 54· | — | |
| 17 | NW | 30·42 | 30·25 | 30·25 | 29·98 | 59 | 38 | 48·5 | — | |
| 18 | NE | 30·42 | 30·34 | 30·23 | 30·01 | 59 | 32 | 45·5 | — | |
| 19 | S | 30·34 | 30·22 | 30·06 | 30·00 | 56 | 28 | 42· | ·51 | |
| 20 | NW | 30·22 | 30·21 | 30·05 | 29·91 | 59 | 36 | 47·5 | — | |
| 21 | NW | 30·21 | 29·92 | 29·91 | 29·60 | 72 | 42 | 57· | — | |
| 22 | SW | 29·92 | 29·74 | 29·65 | 29·55 | 68 | 52 | 60· | — | — |
| 23 | NW | 30·23 | 29·73 | 29·97 | 29·65 | 52 | 32 | 42· | — | 36 |
| 24 | NW | 30·30 | 30·23 | 30·11 | 29·97 | 53 | 35 | 44· | — | |
| 25 | SE | 30·40 | 30·30 | 30·25 | 30·11 | 53 | 32 | 42·5 | — | |
| 26 | S | 30·30 | 30·19 | 30·20 | 30·15 | 52 | 38 | 45· | — | 2 |
| 27 | NE | 30·36 | 30·30 | 30·46 | 30·20 | 55 | 48 | 51·5 | — | 6 |
| 28 | E | 30·37 | 30·36 | 30·50 | 30·46 | 55 | 31 | 43· | — | |
| 29 | E | 30·36 | 30·27 | 30·46 | 30·25 | 55 | 36 | 45·5 | — | |
| 30 | NE | 30·27 | 30·27 | 30·25 | 30·15 | 51 | 29 | 40· | — | |
| 31 | W | 30·27 | 30·25 | 30·15 | 30·05 | 50 | 41 | 45·5 | ·48 | |
| | | 30·60 | 29·20 | 30·50 | 28·92 | 72 | 29 | 50·58 | 1·47 | 0·95 |

Notes.—Tenth Mo. 1—3. Fine. 4. Rainy morning: day fine. 5. Fine: rainy night. 6—13. Fine. 14—16. Cloudy. 17—19. Fine. 20. Fine: lunar halo. 21, 22. Fine. 23. Rainy. 24. Very foggy morning: fine day. 25. Fine. 26, 27. Drizzly. 28—30. Fine. 31. Cloudy and fine.

## RESULTS.

Winds: NE, 3; E, 3; SE, 1; S, 2; SW, 5; W, 4; NW, 13.

| | | |
|---|---|---|
| Barometer: | Greatest height | 30·60 in. |
| | Least | 29·20 in. |
| | Mean | 30·116 in. |
| Thermometer: | Greatest height | 72° |
| | Least | 29° |
| | Mean | 50·58° |
| Evaporation | | 1·47 in. |
| Rain | | 0·95 in. |

[Clock Barometer at Ackworth, max. 30·50 in.; min. 28·92 in.; mean 29·910. in.]

*Devonport, Oct.* 5.—About 5 p. m. on Friday, a heavy gale commenced from the southward; towards night it increased to a perfect hurricane.

A letter from *Limerick*, dated October 7, says:—A gale of wind at WNW commenced yesterday, and continued all the afternoon; and since 10 a. m. has considerably increased, with heavy rain.

*Cromer, Oct.* 14.—From the *Norfolk Chronicle.*—A gale of wind from the NE, (attended at intervals by torrents of rain,) began to blow early this morning, and raging with great violence throughout the day, continues unabated to this hour (seven p. m.) So high a tide, it is said, has not occurred here within the last two years.

*Elsineur, Oct.* 18.—A very heavy gale of wind from the North was experienced here yesterday.

The Season.—We scarcely ever remember so delightful a season as that we have enjoyed in Yorkshire during the last six weeks—the mildness of a genial spring has been added to the beauties of an advanced period of autumn. Every vestige of the latter harvest, even in the latest and most mountainous parts of the country, has been gathered in the best possible state. The vegetation of the fields is at once verdant and luxuriant, and a finer seed time never was remembered, because a finer it is not possible to conceive. The potato crops have been gathered in excellent condition.—*Leeds Mercury. Record, Nov.* 17, 1828.

*Ackworth, Tenth Month,* 1828.—The past summer has been, in these parts, *wet* beyond all precedent: it appears, indeed, to have been attended with abundant rains over most part of the Island. In the *Seventh Month* there fell at Ackworth, by the guage at the school, 9·48 inches, and by my own guage 8·90 in. of rain. The two are of like construction, three quarters of a mile apart; and the difference of about six-tenths of an inch may very well be concluded to have arisen from natural causes: though, as the products of my own were not measured daily, I shall take the other as the real amount for the month. The prevailing winds were westerly, with a mixture of east at intervals of five or six days; the mean temp. 61·44°. It rained on twenty-six days of the month: on the 9th there fell 2·27 in. The

greatest amount of rain for this month at *London* recorded in fourteen years, is 5·13 in. which happened in 1806; but we see in the Laboratory Register for the last Seventh Month, an amount of 6·21 inches, fallen on twenty-five days. Both there and here the greatest weight of rain fell in the space from the 8th to the 15th inclusive: at Stratford the *south-east wind* is noted on the 8th, at Ackworth on the 15th. The *Tenth Month*, 1827, had afforded at Ackworth 5·81 in.; whereas the same month, in 1826, gave only 1·31 in.; but in the month before (Sept.) there fell 6·10 in.; the same month in 1827 yielding only 1·76 in. In 1825, again, the *Eighth* was the wet month, giving 3·28 in.; but in 1826 only an inch. Thus the *summer rains* (as we may term them, in contrast to the winter's) in these three years, *came each year a month later in the season.* The total rain of 1825, at Ackworth, was 24·22 in.; of 1826, 18·74 in.; of 1827, 23·86 in.; the middle year of these is in the dry extreme.

In the present season, *in which the rains have reverted at once to a period more nearly following the solstice,* the climate has partaken much of the tropical character. There has been a continual dampness, with considerable manifestations, at intervals, of electrical power. The deluge of water, too, which came down the country, threw the *Went* out of its channel for many days together; during which time large tracts of meadow-land, with the mown crop upon them, were inundated. As to the *temperature,* it was about the mean of the month, upon an average of years: and Sixes' thermometer indicated 79°, and 45° as the extremes. The mean in 1827 had been 62·71°; but the heat had risen to 83°. In 1826 the mean was 64·72°, and the extreme heat 89°. In 1825 the mean was 62·80°, the greatest heat 90°. The *Barometer,* during the month, was low for the season; oscillating upon a mean of 29·64 in. it descended till the 12th of the month, (in the midst of the wettest period above defined,) reaching 29·14 in. with the wind at SW, after which it rose, on the whole, with variable winds, to the end. I have said that the month partook of the character of the rainy season within the tropics. Perhaps this may be accounted a sufficient cause of unhealthiness; and that it was insalubrious to habits perfectly clear of any specific infection, I could testify from my own experience; but I am inclined to admit, in addition, *the presence of malaria.* I suppose that, in the previous long-continued dry and fair season, there had accumulated on the surface of the soil, a considerable quantity of animal and vegetable matter, ready to pass *upon the addition of a continued supply of moisture,* to the putrid state. This, added to the presence of a stagnant infusion of the mown herbage in the low "plashes," (which are found in this neighbourhood, though hilly,) might prove a sufficient source of tainted dew, to affect the general health of the inmates of the

school, and predispose them to infection. In these observations I am proceeding on the hypothesis of my esteemed friend Dr. Hancock, (published in his "Researches into the laws and phenomena of Pestilence,") that a degree of infectious impregnation, which in a dry air is harmless, may in a warm and moist one be imparted to numerous subjects. It is, then, not to be wondered at, if with such circumstances of climate, and with some fever-patients already in the house, (and with whom intercourse was not prevented,) the Friends who were there for two successive days, at the general meeting on the affairs of the school, together with the inmates of the house, should have become extensively infected; and that, to no inconsiderable number among both classes, the disease should have proved fatal. My own regrets on the subject fix chiefly on an amiable and gifted friend, Henry Brady, the grammar-master, who was taken off at this time, in the prime of a life of great apparent usefulness, a martyr to his assiduous attention to the sick.

[Thus far on the subject, as in substance communicated to Dr. Williamson, (see p. 287.) I have now, in 1831, the satisfaction to add, that the Institution at Ackworth being provided with the means of effectually separating the sick from the family, and its guardians being fully convinced of the necessity of such measures, it is to be confidently hoped that a situation, in itself eminently salubrious, will not be exposed again to a serious incursion of fever.]—L. H.

| 1828. | Wind. | Barometer. | | By Clock. | | Temp. | | Med. | Evap | Rain, &c. |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Max. | Min. | Max. | Min. | Max. | Min. | | | |
| 11m.Nov.1 | NW | 30·25 | 30·23 | 30·10 | 30·05 | 63° | 49° | 56· | — | |
| 2 | NW | 30·32 | 30·23 | 30·25 | 30·12 | 55 | 39 | 47· | — | |
| 3 | NW | 30·32 | 30·20 | 30·24 | 30·10 | 55 | 35 | 45· | — | |
| 4 | E | 30·20 | 30·18 | 30·10 | 30·02 | 52 | 32 | 42· | — | |
| 5 | E | 30·18 | 30·15 | 30·03 | 29·97 | 50 | 36 | 43· | — | |
| 6 | E | 30·15 | 30·06 | 29·97 | 29·93 | 52 | 40 | 46· | — | |
| New M. 7 | E | 30·05 | 29·94 | 29·93 | 29·89 | 48 | 36 | 42· | — | |
| 8 | E | 29·94 | 29·89 | 29·93 | 29·63 | 37 | 30 | 33·5 | — | |
| 9 | NE | 29·89 | 29·70 | 29·63 | 29·35 | 47 | 29 | 38· | — | |
| 10 | NE | 29·73 | 29·70 | 29·35 | 29·30 | 44 | 28 | 36· | — | |
| 11 | NW | 29·82 | 29·73 | 29·46 | 29·40 | 31 | 24 | 27·5 | — | |
| 12 | NW | 29·85 | 29·82 | 29·43 | 29·40 | 33 | 24 | 28·5 | — | |
| 13 | SW | 29·85 | 29·65 | 29·44 | 29·35 | 54 | 29 | 41·5 | — | — |
| 14 | SE | 29·65 | 29·45 | 29·35 | 29·12 | 48 | 44 | 46· | — | 20 |
| 15 | SE | 29·45 | 29·37 | 29·16 | 29·03 | 65 | 46 | 55·5 | — | 30 |
| 16 | SE | 29·73 | 29·37 | 29·45 | 29·01 | 55 | 45 | 50· | — | 25 |
| 17 | NW | 29·98 | 29·73 | 29·75 | 29·45 | 51 | 40 | 45·5 | — | |
| 18 | SW | 30·02 | 29·98 | 29·88 | 29·70 | 47 | 39 | 43· | — | — |
| 19 | NW | 30·17 | 30·02 | 29·96 | 29·80 | 50 | 39 | 44·5 | ·48 | |
| 20 | W | 30·17 | 30·00 | 29·81 | 29·60 | 49 | 38 | 43·5 | — | |
| 21 | SW | 30·00 | 29·87 | 29·62 | 29·50 | 54 | 39 | 46·5 | — | |
| 22 | SW | 30·06 | 29·86 | 29·75 | 29·60 | 56 | 32 | 44· | — | — |
| 23 | SE | 30·06 | 29·76 | 29·74 | 29·43 | 50 | 34 | 42· | — | |
| 24 | S | 29·96 | 29·76 | 29·68 | 29·44 | 56 | 34 | 45· | — | |
| 25 | S | 29·96 | 29·92 | 29·67 | 29 50 | 54 | 46 | 50· | — | |
| 26 | SW | 30·00 | 29·92 | 29·80 | 29·45 | 55 | 40 | 47·5 | — | 27 |
| 27 | NW | 30·08 | 30·00 | 29·85 | 29·72 | 55 | 46 | 50·5 | — | |
| 28 | SW | 30·08 | 30·07 | 29·77 | 29·74 | 60 | 51 | 55·5 | — | |
| 29 | W | 30·11 | 30·08 | 29·98 | 29·76 | 55 | 48 | 51·5 | — | |
| 30 | SW | 30·08 | 29·86 | 30·00 | 29·47 | 54 | 47 | 50·5 | ·47 | |
| | | 30·32 | 29·37 | 30·25 | 29·01 | 65 | 24 | 44·56 | ·95 | 1·02 |

Notes.—Eleventh Mo. 1—7. Fine. 8. Strong bleak wind all day. 9. Fine. 10. Gloomy. 11. Very foggy day. 12. Extreme dense fog all day. 13. Hoar-frost: cloudy. 14—16. Rainy. 17. Foggy. 18. Fine. 19. Foggy morning: fine day. 20, 21. Fine. 22. Drizzly. 23. Fine. 24. Cloudy. 25. Fine. 26. Cloudy. 27. Fine. 28—30. Cloudy.

## RESULTS.

Winds: NE, 2; E, 5; SE, 4; S, 2; SW, 7; W, 2; NW, 8.

| | | |
|---|---|---|
| Barometer: | Greatest height | 30·32 in. |
| | Least | 29·37 in. |
| | Mean | 29·943 in. |
| Thermometer: | Greatest height | 65° |
| | Least | 24° |
| | Mean | 44·56° |
| Evaporation | | 0·95 in. |
| Rain | | 1·02 in. |

[Clock Barometer at *Ackworth,* max. 30·25 in.; min. 29·01 in. mean 29·678 in.]

The fog of Wednesday has seldom been exceeded in opacity in the metropolis and its neighbourhood. It began to thicken very much about half past twelve o'clock, from which time, till near two, the effect was most distressing, making the eyes smart, and almost suffocating those who were in the street, particularly asthmatic persons. In the city all the bankers, and offices of different descriptions, as well as the principal shops, were obliged to have lights. To see with any distinctness further than across the street was impossible; all the narrow lanes, beyond the perspective of a few yards, were absolutely in a state of darkness, and in the great thoroughfares, the hallooing of coachmen and drivers to avoid each other, seemingly issuing from the opaque mass in which they were enveloped, was calculated to awaken all the caution of riders, as well as of pedestrians who had to cross the streets. On the Thames, as on land, the tendency which fog has to enlarge distant objects, was strikingly illustrated; the smallest vessels on their approach seemed magnified to thrice their usual dimensions. St. Paul's had a prodigious effect through the mist, though neither that nor the monument were visible above the height of the houses. This optical illusion is said to arise from the fog diminishing the brightness of objects, and consequently suggesting a greater distance; since while the visual angle remains the same, the greater the distance the greater the [real] magnitude. It cleared off a little about a quarter past two, but returned with all its density in the evening.—*P. L. Nov.* 14.

### *Parhelia observed in Siberia.*

From the *Bibl. Univ.* Nov. 1828, in an Extract from the Journal des Debats, du 9 Sept. which took it from a Moscow paper.—The 4th of February [15th N. S.] at Kiaihta, in Siberia, the cold being intense, there appeared at sun-rise, on each side of the luminary, what they call there *the sun's ears,* being a pair of luminous beams projected on the face of the sky. At 10 a. m. these were transformed into brilliant parhelia. An immense whitish column, resembling the tail of a comet, proceeded from the sun towards the west, [*i. e.* through the zenith,] and there was formed around the whole sky a regular circle, on the circumference of which were seven images of the sun, pale and without rays, equidistant from each other. [This makes the seven mock suns and the true to stand at equal intervals of 45°.] There is added mention of four other circles, two iridescent and with the sun, and two against it, the disposition of which is not clearly set down. The phenomena do not seem to have been noticed by any man of science, though they lasted from 10 a. m. to near noon.

| 1828. | Wind. | Barometer. | | By Clock. | | Temp. | | Med. | Evap | Rain, &c. |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Max. | Min. | Max. | Min. | Max. | Min. | | | |
| 12m.Dec.1 | NW | 30·47 | 30·00 | 30·29 | 30·00 | 41° | 28° | 34·5 | — | |
| 2 | SE | 30·47 | 30·23 | 30 20 | 29·75 | 42 | 32 | 37· | — | |
| 3 | SW | 30·23 | 30·22 | 30·00 | 29·77 | 50 | 46 | 48· | — | |
| 4 | NW | 30·22 | 30·17 | 30·07 | 29·90 | 54 | 49 | 51·5 | — | |
| 5 | SE | 30·17 | 29·99 | 29·90 | 29·65 | 54 | 34 | 44· | — | |
| 6 | SW | 29·99 | 22·70 | 29·65 | 29·10 | 57 | 40 | 48·5 | — | 11 |
| New M. 7 | SW | 29·70 | 29·59 | 29·41 | 29·05 | 45 | 39 | 42· | — | 41 |
| 8 | SW | 29·80 | 29·29 | 29·50 | 29·01 | 47 | 34 | 40·5 | — | 35 |
| 9 | NW | 30·23 | 29·80 | 29·88 | 29·50 | 44 | 37 | 40·5 | — | |
| 10 | W | 30·23 | 30·03 | 29·87 | 29·52 | 50 | 49 | 49·5 | — | 7 |
| 11 | W | 30·34 | 30·03 | 30·08 | 29·80 | 50 | 47 | 48·5 | — | |
| 12 | SW | 30·34 | 30·33 | 30·15 | 30·02 | 53 | 48 | 50·5 | — | |
| 13 | SW | 30·40 | 30·34 | 30·33 | 30·15 | 54 | 47 | 50·5 | — | |
| 14 | SE | 30·40 | 30·35 | 30·30 | 30·05 | 50 | 38 | 44· | — | |
| 15 | SE | 30·35 | 30·27 | 30·05 | 29·75 | 49 | 40 | 44·5 | ·48 | |
| 16 | SW | 30·27 | 29·91 | 29·75 | 29·41 | 52 | 50 | 51· | — | 42 |
| 17 | SW | 29·91 | 29·50 | 29·52 | 28·97 | 56 | 50 | 53· | — | 5 |
| 18 | SW | 29·81 | 29·50 | 29·47 | 29·16 | 65 | 41 | 53· | — | 9 |
| 19 | NW | 30·03 | 29·81 | 29·64 | 29·47 | 51 | 46 | 48·5 | — | |
| 20 | NW | 30·10 | 30·03 | 29·72 | 29·64 | 52 | 49 | 50·5 | — | |
| 21 | SW | 30·14 | 30·10 | 29·90 | 29·72 | 51 | 40 | 45·5 | — | |
| 22 | SW | 30·14 | 29·98 | 29·72 | 29·68 | 55 | 48 | 51·5 | — | — |
| 23 | NW | 29·98 | 29·72 | 29·71 | 29·35 | 52 | 43 | 47·5 | — | — |
| 24 | W | 29·72 | 29·48 | 29·35 | 29·16 | 52 | 42 | 47· | ·47 | — |
| 25 | NW | 29·73 | 29·50 | 29·32 | 29·22 | 45 | 27 | 36· | — | |
| 26 | SE | 29·84 | 29·73 | 29·55 | 29·31 | 43 | 31 | 37· | — | |
| 27 | E | 30·03 | 29·84 | 29·72 | 29·55 | 48 | 36 | 42· | — | — |
| 28 | SE | 30·43 | 30·03 | 30·15 | 29·72 | 45 | 37 | 41· | — | 12 |
| 29 | NE | 30·43 | 30·43 | 30·20 | 30·05 | 39 | 33 | 36· | — | |
| 30 | SW | 30·43 | 30·19 | 30·05 | 29·70 | 45 | 39 | 42· | — | |
| 31 | SW | 30·19 | 29·98 | 29·75 | 29·52 | 48 | 37 | 42·5 | ·18 | 4 |
| | | 30·47 | 29·29 | 30·33 | 28·97 | 65 | 27 | 45·09 | 1·13 | 1·66 |

Notes.—Twelfth Mo. 1. Cloudy. 2—5. Fine. 6. Fine: rainy night. 7. Fine. 8. Rainy. 9—12. Fine. 13. Cloudy. 14, 15. Fine. 16. Fine day: rainy night. 17. Cloudy: very boisterous night, with rain. 18. A stormy shower about eleven a. m. 19. Fair, but boisterous. 20. Overcast: windy. 21. Fine. 22. Drizzling morning: fine day. 23, 24. Ditto. 25—27. Fine. 28. Overcast: rainy p. m. 29. Cloudy and fine. 30. Fine. 31. Drizzly.

## RESULTS.

Winds: NE, 1; E, 1; SE, 6; SW, 13; W, 3; NW, 7.

| | | |
|---|---|---|
| Barometer: | Greatest height | 30·47 in. |
| | Least | 29 29 in. |
| | Mean | 30·04 in. |
| Thermometer: | Greatest height | 65° |
| | Least | 27° |
| | Mean | 45·09° |
| Evaporation | | 1·13 in. |
| Rain | | 1·66 in. |

[Clock Barometer at *Ackworth*, max. 30·33 in.; min. 28·97 in.; mean 29·709 in.]

*Deal*, *Dec.* 1.—About half-past 1 p. m. the wind suddenly shifted from the NW to NE, and blew very hard, when the outward-bound, in all directions, slipped and parted from their anchors and cables, and ran to leeward. At the close of the day there was about sixteen sail only of the outward-bound remaining, which we trust will now ride the gale out in safety. Half-past 6 p. m. rather more moderate, but a dreadful sea.

*Hull.*—Our shipping intelligence this week will be found to contain a long catalogue of mishaps by sea, the consequences of the gale of yesterday week, [1st.] It is stated, that at least thirty vessels were on shore between Whitby and Scarborough, and about the same number between Scarborough and Flamborough-head.—*Hull Packet.*

*Yarmouth*, *Dec.* 1.—A heavy gale came on this morning at about ten o'clock, from NE, (the wind having been previously westward,) and still continues, though not so violent.

*Harwich*, *Dec.* 1.—About noon the wind suddenly shifted from a fresh breeze at NW to ENE, and NE a heavy gale.

*Margate*, *Dec.* 1.—It has come on since morning to blow hard from about NNE, and still continues.

*Cork*, *Dec.* 6.—Early this morning it commenced blowing very hard, since when it has continued with increased violence, and at this moment (four o'clock) blows a perfect gale, with thick weather and heavy rain. Wind S. Seven o'clock, gale continues.

*Limerick*, *Dec.* 7.—It blew a very heavy gale all yesterday from S to SSW, and continued till one o'clock this morning, when it became a hurricane at WSW till six. The wind then shifted to WNW, and became more moderate. There was an uncommonly high tide, which made several breaches on each side of the river. Two p. m. wind about W, but still unsettled.

*Falmouth*, *Dec.* 7.—It blew a strong gale last night from S, but moderated towards day-light, when it shifted to W; and has, in the course of the day, again veered to SW and WSW, with fresh breezes, and thick hazy weather.

*Holyhead*, *Dec.* 7.—Throughout last night it blew a very heavy gale, in squalls from S by W until 6 a. m. when it came round to W by S, and continued to blow hard till 10 a. m. At that time the gale somewhat abated. At noon more moderate and clear weather.

*Penzance, Dec.* 7.—It blew a very severe gale last night from S, varying to SW. It is now (two p. m.) about WSW, strong. No damage has been sustained by the shipping here.

*Plymouth, Dec.* 7.—It blew a tremendous gale here yesterday evening, and last night, from S to SW, but the whole of the shipping rode it out safely.

*Portsmouth, Dec.* 8.—It has been blowing a storm the whole night and to-day, with very heavy thunder and lightning, also a tremendous sea. The ships as yet ride safely.

*Deal, Dec.* 8.—Last night a severe gale from SW. This morning it was more moderate: towards noon the wind increased to a gale from the SW. Five p. m. WSW squally.

*Beaumaris, Dec.* 8.—We experienced a very severe gale on Saturday night from SW on this coast. It commenced at 10 p. m. and continued about ten hours.

*Yarmouth, (I. W.) Dec.* 9.—The greater part of Sunday night, and nearly the whole of yesterday, the wind blew a hurricane from S and SW.

*Deal, Dec.* 18.—Towards this morning, and throughout the day, it has blown strong in squalls from SW to WSW.

*Cardiff, Dec.* 20.—During the last two days it has blown, and still continues to blow, a most tremendous gale at WSW.

The boisterous weather has prevented all arrivals from the Continent. The fears entertained at Lloyd's respecting the late gales, happily appear to be groundless, little or no damage having been sustained by the shipping. It has been observed, that gales from the westward, unless they come on suddenly, are seldom attended with any disastrous effects.—*P. L. Dec.* 20.

The Season.—The weather during the last two or three days has been mild to an extraordinary degree in this neighbourhood. On Monday the thermometer stood, at one period, as high as 56°; this may be considered as remarkable, when, as has been stated to us to be the case, it is on record that during the "dog days," last summer, it stood so low as 45°. Flies are still commonly observed in most houses, and yesterday we actually saw a wasp that had crept forth from its winter retreat, and was essaying to poise itself on its "gauzy pinions." *Hull Packet. P. L. Dec.* 26.

The weather here still continues unprecedentedly fine for the season. We have not yet experienced any of the usual concomitants of winter; the Cambrian hills have exhibited some hail this week, and the winds have been and still continue boisterous, but in other respects it is spring; the fields retain their verdure, and cattle lack no food in the pastures. This is an important circumstance, as from the immense destruction by the floods of last summer in the hay and other crops, great apprehension was entertained of a scarcity in the article of fodder; which, providentially, is much lower than usual at this time of the year.—*Chester Chronicle. P. L. Dec.* 17.

On Wednesday afternoon the neighbourhood of Hexham was visited by a violent storm of thunder and lightning. The thunder was loud, and the lightning very vivid, which at this season of the year is rather extraordinary, and attended as it was with a heavy fall of hail, a strong wind, and partial darkness, had a very awful effect, though but of short continuance. After an autumn almost unprecedented for a long succession of fine, clear, and dry weather, we have for several weeks past had a continuance of cloudy and wet weather, with high winds, but little or no frost. The absence of the latter has produced a kind of second spring with some kinds of plants, amongst others, the furze upon the fells

is in several places covered with yellow bloom.—*Newcastle Chronicle. P. L. Dec.* 25.

A more awful storm of thunder and lightning, the wind at the same time blowing nearly a hurricane, has not been remembered for many years, than that which was experienced at Portsmouth on Monday. The effects of the lightning have been felt generally in this part of the county. Among other objects to which the electric fluid was attracted, was the mast of the Roebuck quarantine guard cutter, at the Motherbank, which it splintered from the head nearly to the deck. The mast was observed to open about two feet, and again close, and the electric fluid, which struck it with the noise of a cannon's report, was seen to issue from that part, leaving several splinters of the interior of the mast protruding through the opening whence it escaped. At the moment the vessel was struck, so great was the shock, that every person on board became as it were paralyzed, and some moments elapsed ere each recovered possession of his faculties.—*Hampshire Telegraph. Record, 18th Dec.*

*Corposants, and their nature as a prognostic.*

From the Edinburgh New Philo. Journal, July—October, 1830. Lieut. Alexander Milne, of H. M. S. Cadmus, in latitude 34° 40′ S. longitude 54° 50′, in September, 1827.—" About ten o'clock, [at night,] while the lightning continued to rage, and to extend itself around the horizon, I observed a light at the extremity of the vane-staff at the mast-head; and shortly after, another on the weather side of the foretop-sail yard. One of the midshipmen went aloft to discover its position. He found it attached to an iron bolt on the yard-arm, its size rather exceeding that of a walnut, having a faint yellow cast in the centre, and approaching to blue on the exterior edge. He applied his hand to it, on which it *burnt* with a hissing noise [partly the association of fire with light in his imagination, partly the passage of a portion of the electric matter to his person] resembling the burning of a portfire, at the same time emitting a dense smoke without any sensible smell. When he applied the sleeve of his wet jacket, [of course to wipe it off!] it ran up it, and immediately went out, [the electricity being conducted another way by the water.] The light on the vane-staff retained its position for upwards of an hour."

In the month of December, the same year, a second appearance of the Corposant, when off the coast of Patagonia, attached as well to a spindle of hard wood as to one of copper or iron.

" After any of the above phenomena we had always very bad weather, commencing with heavy and sudden squalls, generally from the SW, but varying a few points each way, and settling in a few hours to a steady gale;" i. e. after each display of electric power, accumulated in the atmosphere of these latitudes, there was a change of wind and weather. These strong SW winds come from the land, and are called *Pamperoes.*

| 1829. | Wind. | Barometer. | | By Clock. | | Temp. | | Med. | Evap | Rain, &c. |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Max. | Min. | Max. | Min. | Max. | Min. | | | |
| 1 mo.Jan. 1 | NW | 29·98 | 29·91 | 29·78 | 29·51 | 48° | 35° | 41·5 | — | |
| 2 | NW | 30·01 | 29·96 | 29·80 | 29·73 | 43 | 32 | 37·5 | — | |
| 3 | NW | 30·01 | 29·72 | 29·84 | 28·86 | 42 | 34 | 38· | — | 26 |
| 4 | NW | 29·90 | 29·70 | 29·78 | 28·84 | 35 | 32 | 33·5 | — | 5 |
| New M. 5 | NW | 30·12 | 29·90 | 29·94 | 29·78 | 37 | 27 | 32· | — | — |
| 6 | NE | 30·16 | 30·12 | 30·02 | 29·94 | 36 | 30 | 33· | — | |
| 7 | NE | 30·16 | 30·03 | 30·00 | 29·80 | 40 | 32 | 36· | — | |
| 8 | NE | 30·03 | 29·99 | 29·80 | 29·69 | 34 | 32 | 33· | — | — |
| 9 | NW | 29·99 | 29·81 | 29·69 | 29·50 | 38 | 33 | 35·5 | — | |
| 10 | NE | 30·10 | 29·81 | 29·75 | 29·56 | 41 | 30 | 35·5 | — | |
| 11 | SE | 30·20 | 30·10 | 30·00 | 29·75 | 38 | 32 | 35· | — | |
| 12 | E | 30·26 | 30·20 | 30·10 | 30·00 | 38 | 31 | 34·5 | — | |
| 13 | NE | 30·26 | 30·22 | 30·09 | 29·98 | 38 | 33 | 35·5 | — | |
| 14 | NE | 30·22 | 30·09 | 29·98 | 29·76 | 40 | 37 | 38·5 | — | — |
| 15 | NE | 30·09 | 29·82 | 29·76 | 29·52 | 40 | 34 | 37· | — | |
| 16 | NE | 30·09 | 29·98 | 29·66 | 29·50 | 34 | 30 | 32· | — | |
| 17 | NE | 30·21 | 29·98 | 29·82 | 29·66 | 35 | 28 | 31·5 | — | |
| 18 | N | 30·36 | 30·21 | 30·00 | 29·82 | 36 | 18 | 27· | — | |
| 19 | N | 30·36 | 30·21 | 30·00 | 29·90 | 32 | 20 | 26· | — | |
| 20 | NW | 30·27 | 30·15 | 29·90 | 29·83 | 31 | 24 | 27·5 | — | — |
| 21 | E | 30·15 | 29·97 | 29·83 | 29·68 | 31 | 22 | 26·5 | — | — |
| 22 | SE | 29·97 | 29·83 | 29·68 | 29·55 | 31 | 24 | 27·5 | — | — |
| 23 | E | 29·83 | 29·81 | 29·56 | 29·50 | 24 | 18 | 21· | — | — |
| 24 | NW | 29·93 | 29·81 | 29·54 | 29·45 | 23 | 18 | 20·5 | — | — |
| 25 | Var. | 29·93 | 29·32 | 29·45 | 28·84 | 33 | 20 | 26·5 | — | |
| 26 | Var. | 29·33 | 29·31 | 28·86 | 28·77 | 45 | 38 | 41·5 | — | |
| 27 | SW | 29·61 | 29·33 | 29·25 | 28·86 | 42 | 33 | 37·5 | 49 | 20 |
| 28 | NW | 29·76 | 29·61 | 29·39 | 29·25 | 41 | 30 | 35·5 | | |
| 29 | SE | 29·76 | 29·74 | 29·44 | 29·34 | 40 | 31 | 35·5 | | |
| 30 | N | 30·28 | 29·74 | 30·10 | 29·44 | 40 | 35 | 37·5 | | |
| 31 | N | 30·59 | 30·28 | 30·34 | 30·10 | 38 | 28 | 33· | | |
| | | 30·59 | 29·31 | 30·34 | 28·77 | 48 | 18 | 32·98 | | 0·51 |

Notes.—First Mo. 1. Cloudy and Fine. 2. Fine. 3. Fine day: boisterous night. 4. Stormy morning: a sharp flash of lightning about half-past two p. m. followed by loud thunder and very large hail, nearly sufficient to cover the ground. 5. Fine: a little snow, evening. 6, 7. Fine. 8. Some snow. 9—12. Overcast. 13. Gloomy: cold. 14. Snowy a. m.: fair p. m. 15, 16. Gloomy. 17. Fine: a very distinct lunar halo. 18, 19. Hoar-frost. 20. Fine: some snow, evening. 21. Snowy. 22. Fine: piercing cold wind.

23, 24. Snowy. 25. Overcast a. m.: clear p. m. 26. A gradual thaw began a. m. 27. Overcast: foggy. 28. Cloudy. 29. Fine day, after a foggy morning. 30, 31. Fine.

## RESULTS.

Winds: N, 4; NE, 9; E, 3; SE, 3; SW, 1; NW, 9; Var. 2.

| | | |
|---|---|---|
| Barometer: | Greatest height | 30·59 in. |
| | Least | 29·31 in. |
| | Mean | 29·96 in. |
| Thermometer: | Greatest height | 48° |
| | Least | 18° |
| | Mean | 32·98° |
| Evaporation in 27 days, from the 1st. | | 0·49 in. |
| Rain | | 0·51 in. |

[Clock Barometer at *Ackworth*, max. 30·34 in.; min. 28·77 in.; mean 29·691.]

The farmers are beginning to complain of the present mild weather, as the insects, and particularly the slugs, are getting numerous and strong. The slugs are attacking and injuring the young shoots of wheat. Frost is anxiously looked for to destroy these active enemies of plants in their young state.—*P. L. Jan.* 2.

*Portsmouth, Jan.* 4.—Wind northerly, blowing very fresh.

*Riga, Jan.* 15.—We have a steady and severe winter.

*Gravesend, Jan.* 23.—It has blown a heavy gale all the day. No arrivals or sailings.

*Harwich, Jan.* 23.—Remain about a hundred and fifty sail of vessels, put in for shelter.

*Deal, Jan.* 23.—Wind E, blowing strong.

*Yarmouth, Jan.* 23.—Last night it blew a gale of wind from E and ESE.

*Jan.* 24.—It blew a heavy gale last night from the E, which, though rather abated, has continued all day, with incessant snow showers.

*Amsterdam, Jan.* 30.—It began to thaw on the 26th, and the ice is fast clearing away.

### *Effect of Sound on the Barometer.*

In November, 1773, Sir H. C. Englefield made the experiment of exposing a Ramsden's Barometer to the near sound of a bell weighing 16,000 lbs. in St. Gudula's church at Brussels. There was a contrivance by which the clapper could be loosed after the bell had been made to swing. By the swinging alone the quicksilver was not affected; but when the sound came, it leaped up with a springing motion, and continued to vibrate so long as the bell rang: the extent of the vibrations being from six to ten thousandths of an inch.

Here is, I think, the same kind of *impulse* on the surface of the quicksilver in the reservoir, as would have made another bell vibrate, if placed as near; and we need not suppose the *density* of the air *affected* by the sound, since a solid rod would have conveyed the vibrations as well. I have noticed elsewhere in this work the real *librations* of the column, proceeding from momentary changes of density in the air of the room, in a storm of wind.—L. H.

| 1829. | Wind. | Barometer. | | By Clock. | | Temp. | | Med. | Evap | Rain, &c. |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Max. | Min. | Max. | Min. | Max. | Min. | | | |
| 2mo.Feb.1 | E | 30·73 | 30·59 | 30·38 | 30·33 | 40° | 18° | 29· | — | |
| 2 | E | 30·73 | 30·66 | 30·38 | 30·35 | 33 | 19 | 26· | — | |
| 3 | SE | 30·72 | 30·54 | 30·35 | 30·13 | 35 | 34 | 34·5 | — | |
| New M. 4 | SW | 30·54 | 30·30 | 30·13 | 30·00 | 42 | 38 | 40· | — | — |
| 5 | NW | 30·43 | 30·30 | 30·18 | 30·10 | 43 | 37 | 40· | — | — |
| 6 | SW | 30·43 | 30·28 | 30·10 | 29·95 | 43 | 40 | 41·5 | — | — |
| 7 | NW | 30·42 | 30·22 | 30·20 | 29·95 | 43 | 38 | 40·5 | — | — |
| 8 | E | 30·51 | 30·42 | 30·25 | 30·16 | 38 | 37 | 37·5 | — | |
| 9 | NW | 30·51 | 30·46 | 30·22 | 30·17 | 43 | 36 | 39·5 | — | |
| 10 | SE | 30·51 | 30·41 | 30·22 | 30·14 | 43 | 38 | 40·5 | — | — |
| 11 | NW | 30·41 | 30·27 | 30·14 | 30·03 | 48 | 42 | 45· | — | |
| 12 | SW | 30·27 | 30·23 | 30·05 | 30·00 | 43 | 38 | 40·5 | — | — |
| 13 | NW | 30·23 | 30·23 | 30·00 | 29·93 | 44 | 38 | 41· | — | — |
| 14 | NW | | | 29·93 | 29·79 | 48 | 42 | 45· | — | |
| 15 | W | 30·23 | 30·13 | 29·80 | 29·70 | 51 | 45 | 48· | — | |
| 16 | W | 30·13 | 29·93 | 29·70 | 29·52 | 50 | 40 | 45· | ·48 | |
| 17 | NW | 30·01 | 29·93 | 29·79 | 29·66 | 50 | 40 | 45· | — | |
| 18 | E | 29·93 | 29·82 | 29·74 | 29·40 | 40 | 32 | 36· | — | |
| 19 | W | 29·82 | 29·78 | 29·40 | 29·30 | 50 | 38 | 44· | — | |
| 20 | NE | 29·78 | 29·34 | 29·32 | 29·05 | 50 | 40 | 45· | — | — |
| 21 | E | 29·34 | 29·31 | 29·05 | 28·90 | 52 | 38 | 45· | — | 37 |
| 22 | NW | 29·70 | 29·31 | 29·35 | 29·02 | 45 | 34 | 39·5 | — | — |
| 23 | E | 29·70 | 29·65 | 29·35 | 29·27 | 41 | 30 | 35·5 | — | |
| 24 | SE | 30·06 | 29·65 | 29·80 | 29·28 | 41 | 31 | 36· | — | — |
| 25 | E | 30·23 | 30·06 | 29·97 | 29·80 | 42 | 35 | 38·5 | — | — |
| 26 | SE | 30·23 | 30·23 | 29·97 | 29·80 | 39 | 37 | 38· | — | 50 |
| 27 | NE | 30·46 | 30·23 | 30·18 | 29·93 | 43 | 29 | 36· | — | |
| 28 | SE | 30·46 | 30·35 | 30·18 | 30·09 | 38 | 20 | 29· | ·40 | |
| | | 30·73 | 29·31 | 30·38 | 28·90 | 52 | 18 | 39·32 | ·88 | 0·87 |

NOTES.—Second Mo. 1. Very fine. 2, 3. Hoar-frost: clear day. 4. Foggy morning: drizzle. 6, 7. Drizzle: cloudy. 8. Foggy. 9, 10, 11. Overcast. 12, 13. Drizzle. 14—20. Fine. 21. Rainy. 22. Cloudy. 23, 24. Fine. 25. Gloomy. 26. Rainy. 27. Overcast. 28. Fine.

## RESULTS.

Winds: NE, 2; E, 7; SE, 5; SW, 3; W, 3; NW, 8.

| | | |
|---|---|---|
| Barometer: | Greatest height | 30·73 in. |
| | Least | 29·31 in. |
| | Mean | 30·165 in. |
| Thermometer: | Greatest height | 52° |
| | Least | 18° |
| | Mean | 39·32° |
| Evaporation | | 0·88 in. |
| Rain | | 0·87 in. |

[Clock Barometer at *Ackworth*, max. 30·38 in.; min. 28·90 in.; mean 29·852 in.]

The severity of the weather has introduced vast flights of wild fowl into the harbours of Chichester and Langton, and also in the various marshes and creeks along the coast. The shops and markets exhibit beautiful varieties of the duck tribe. The immense flocks of the golden plover are astonishing. Golding, of Emsworth, killed in one day fifty-three ducks and widgeons; and Page, of Selsea, obtained twenty-eight widgeons at one shot.—*Hants Chronicle.*

During the late severe weather vast flocks of wild ducks made their appearance in the neighbourhood of Penzance. All the guns that could be mustered at that place and in the country round were placed in requisition, and great numbers of these birds were killed. On Saturday they were sold at Penzance market for 6d. to 8d. each.—*West Briton.*

Letters from Paris, dated the 3d, state, that during the last month the coasts of Spain, in the Ocean, and in the Mediterranean, had been visited by most violent tempests.

From Antwerp we learn, under the date of Feb. 3, that the frost then continued, but that the wind had veered to the westward; and from Helvoet, under the same date, they write, that they again had frosty weather, since the 31st ult. and that there was a great deal of floating ice in the river.

From Hamburgh, under date of the 10th instant, we learn that the frost continued with great severity, with the wind at NNE. A thaw commenced at Pillau on the 26th ult. with a SE wind. At Amsterdam it commenced thawing on the night of the 12th instant, and continued the next day. At Helvoet, on the 13th, the thaw continued, and the ice was fast decreasing.—*Feb.* 18.

From St. Petersburgh they write, under date Feb. 27, that the ice is unusually thick this winter, and is reported to have extended far into the Baltic. They expect late open water.—*P. L.*

*Pillau, Feb.* 19.—We experienced a strong frost, and our port is surrounded with ice. It is supposed that the river will not be clear of ice till the end of March.

| 1829. | Wind. | Barometer. | | By Clock. | | Temp. | | Med. | Evap | Rain, &c. |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Max. | Min. | Max. | Min. | Max. | Min. | | | |
| 3mo.Mar.1 | NE | 30·35 | 30·35 | 30·15 | 30·07 | 35° | 30° | 32·5 | — | |
| 2 | NE | 30·47 | 30·35 | 30·23 | 30·15 | 35 | 33 | 34· | — | |
| 3 | NE | 30·47 | 30·31 | 30·22 | 30·09 | 40 | 35 | 37·5 | — | — |
| 4 | NE | 30·33 | 30·25 | 30·14 | 30·09 | 35 | 28 | 31·5 | — | |
| New M. 5 | NE | 30·33 | 30·20 | 30·12 | 29·98 | 45 | 35 | 40· | — | |
| 6 | NE | 30·20 | 30·10 | 29·98 | 29·85 | 44 | 33 | 38·5 | — | |
| 7 | E | 30·11 | 30·10 | 29·85 | 29·81 | 45 | 34 | 39·5 | — | — |
| 8 | N | 30·11 | 30·01 | 29·82 | 29·66 | 46 | 38 | 42· | — | — |
| 9 | NW | 30·01 | 29·95 | 29·71 | 29·64 | 43 | 30 | 36·5 | — | |
| 10 | NW | 30·01 | 29·99 | 29·73 | 29·69 | 40 | 29 | 34·5 | — | |
| 11 | E | 29·99 | 29·94 | 29·70 | 29·62 | 44 | 28 | 36· | — | |
| 12 | E | 29·94 | 29·83 | 29·62 | 29·55 | 40 | 30 | 35· | — | |
| 13 | NE | 30·02 | 29·83 | 29·65 | 29·57 | 43 | 32 | 37·5 | — | |
| 14 | NW | 30·10 | 30·00 | 29·76 | 29·64 | 42 | 20 | 31· | — | |
| 15 | NW | 30·10 | 30 02 | 29·76 | 29·60 | 44 | 18 | 31· | — | |
| 16 | SE | 30·02 | 29·72 | 29·60 | 29·20 | 43 | 19 | 31· | — | |
| 17 | Var. | 29·90 | 29·64 | 29·43 | 29·15 | 49 | 24 | 36·5 | — | |
| 18 | Var. | 29·85 | 29·79 | 29·40 | 29·33 | 57 | 42 | 39·5 | — | 9 |
| 19 | SE | 29·79 | 29·65 | 29·34 | 29·01 | 59 | 50 | 54·5 | — | — |
| 20 | SW | 30·11 | 29·76 | 29·95 | 29·15 | 64 | 42 | 53· | — | |
| 21 | SE | 30·11 | 30·00 | 29·95 | 29·75 | 60 | 29 | 44·5 | 1·00 | |
| 22 | E | 30·00 | 29·92 | 29·76 | 29·67 | 55 | 39 | 47· | — | |
| 23 | E | 30·00 | 29·92 | 29·86 | 29·75 | 54 | 37 | 45·5 | — | |
| 24 | E | 30·05 | 29·92 | 29·80 | 29·75 | 46 | 22 | 34· | — | |
| 25 | E | 30·09 | 29·98 | 29·80 | 29·76 | 54 | 25 | 39·5 | — | |
| 26 | Var. | 30·09 | 30·06 | 29·81 | 29·76 | 48 | 35 | 41·5 | — | |
| 27 | SE | 30·06 | 29·81 | 29·76 | 29·53 | 48 | 25 | 36·5 | — | |
| 28 | E | 29·81 | 29·46 | 29·53 | 29·19 | 49 | 40 | 44·5 | ·96 | 40 |
| 29 | NE | 29·46 | 29·40 | 29·19 | 29·05 | 47 | 38 | 42·5 | — | |
| 30 | NE | 29·40 | 29·33 | 29·06 | 29·04 | 51 | 39 | 45· | — | |
| 31 | NE | 29·58 | 29·37 | 29·17 | 29·04 | 41 | 33 | 47· | ·16 | 6 |
| | | 30·47 | 29·33 | 30·23 | 29·01 | 64 | 18 | 39·32 | 2·12 | 0·55 |

Notes.—Third Mo. 1, 2. Overcast. 3. Cloudy. 4—6. Cloudy. 7. Cloudy: a little rain p. m. 8. A gentle rain p. m. 9. Cloudy. 10—14. Fine. 15—17. Fine, with hoar-frosts. 18. Hoar-frost: slight showers. 19. Fine: boisterous night. 20, 21. Fine. 22. Ditto: much wind. 23. Fine. 24. Ditto: hoar-frost. 25—28. Fine. 29—31. Cloudy.

## RESULTS.

Winds: N, 1; NE, 10; E, 8; SE, 4; SW, 1; NW, 4; Var. 3.

| | | |
|---|---|---|
| Barometer: | Greatest height | 30·47 in. |
| | Least | 29·33 in. |
| | Mean | 29·95 in. |
| Thermometer: | Greatest height | 64° |
| | Least | 18° |
| | Mean | 39·32° |
| Evaporation | | 2·12 in. |
| Rain | | 0·55 in. |

[Clock Barometer at *Ackworth*, max. 30·23 in.; min. 29·01 in. mean 29·726 in.]

A letter from Memel of the 3d inst. says:—"Since the 23d of December the frost has continued without intermission, with an immense quantity of snow. The ice is of great thickness, and no open water to be seen; the opening of the navigation cannot well be expected before the middle of next month.—*P. L. March* 18.

*Elsinore, March* 14.—The Sound is full of ice; and, in consequence of its freezing three or four degrees every night, it is very strong. The entrance to the Sound from the Cattegat is covered with floating ice, which is however gradually carried off by the current.

*St. Petersburgh, March* 24.—To a few days of thaw there has succeeded a sharp frost, very unusual at this advanced period. The navigation is likely to open late.—*P. L.*

### *Sand Tubes—Fulgurites?*

It has been supposed that certain tubes, found ready formed in beds of *sand* by agglutination of the grains, were the products of electrical action; and it has been asserted that they are successfully imitated by the discharge of an electrical battery, through pounded glass, (Annales de Chimie, Mars 1828.) According to accounts given in the *Bibl. Univ.* from the German work *Annalen der Physik*, this conjecture of their origin from lightning has been verified by the examination of a place on which a stroke had been seen to fall in a sandy soil, making holes in the ground, one of which being traced, afforded some pieces of the tubular product above mentioned.

I have turned to the earliest account of them that I have at hand, (in *Thomson's Annals*, July 1813,) which is this.—"On Friday, Nov. 6, 1812, a letter was read from Ed. L. Irton, Esq. on the sand-tubes found at Drigg, in Cumberland. These tubes have been found only in a single hill of drift-sand on the sea-shore, about five acres in extent. They were discovered by the drifting of the sand. They are placed nearly perpendicularly, at unequal distances. One was traced fifteen feet deep; but how far they go is unknown. *When first dug out they are flexible; but soon become quite rigid.* Internally they have a glaze, which is perfectly vitreous." This glaze should be submitted, in a well-authenticated specimen, to the action of different solvents, to see whether it be not, after all, formed of animal gluten. I think the electrical origin of these sand-tubes, on the whole, improbable.—L. H.

| 1829. | Wind. | Barometer. | | By Clock. | | Temp. | | Med. | Evap | Rain, &c. |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Max. | Min. | Max. | Min. | Max. | Min. | | | |
| 4mo. Apr. 1 | NW | 29·67 | 29·56 | 29·22 | 29·15 | 45° | 27° | 36· | — | — |
| 2 | NW | 29·81 | 29·67 | 29·35 | 29·23 | 45 | 30 | 37·5 | — | 2 |
| New M. 3 | NW | 29·81 | 29·70 | 29·42 | 29·35 | 47 | 33 | 40· | — | |
| 4 | SW | 29·70 | 29·52 | 29·35 | 29·00 | 54 | 43 | 48·5 | — | 12 |
| 5 | SW | 29·52 | 29·31 | 29·00 | 28·80 | 56 | 43 | 49·5 | — | |
| 6 | SW | 29·31 | 29·29 | 28·90 | 28·82 | 53 | 42 | 47·5 | — | 27 |
| 7 | E | 29·54 | 29·29 | 29·10 | 28·90 | 50 | 43 | 46·5 | — | 8 |
| 8 | SW | 29·54 | 29·32 | 29·15 | 29·10 | 53 | 38 | 45·5 | — | — |
| 9 | NE | 29·57 | 29·32 | 29·15 | 28·90 | 50 | 38 | 44· | — | 75 |
| 10 | W | 29·74 | 29·57 | 29·27 | 29·05 | 54 | 34 | 44· | — | |
| 11 | SW | 29·74 | 29·38 | 29·32 | 28·85 | 58 | 44 | 51· | — | 58 |
| 12 | SW | 29·38 | 29·21 | 28·85 | 28·63 | 58 | 50 | 54· | ·96 | 6 |
| 13 | SW | 29·33 | 29·21 | 28·96 | 28·65 | 58 | 46 | 52· | — | 15 |
| 14 | SE | 29·21 | 29·15 | 28·97 | 28·50 | 59 | 40 | 49·5 | — | 30 |
| 15 | SW | 29·34 | 29·21 | 28·97 | 28·50 | 55 | 40 | 47·5 | — | 4 |
| 16 | SW | 29·74 | 29·34 | 29·34 | 28·98 | 60 | 45 | 52·5 | — | 36 |
| 17 | SW | 29·89 | 29·74 | 29·54 | 29·34 | 53 | 40 | 46·5 | — | 5 |
| 18 | NW | 29·90 | 29·80 | 29·55 | 29·29 | 60 | 39 | 49·5 | — | — |
| 19 | NW | 29·84 | 29·80 | 29·55 | 29·30 | 55 | 38 | 46·5 | ·95 | 24 |
| 20 | NW | 29·93 | 29·84 | 29·66 | 29·50 | 56 | 35 | 45·5 | — | |
| 21 | SE | 29·84 | 29·57 | 29·65 | 29·40 | 58 | 36 | 47· | — | 6 |
| 22 | E | 29·80 | 29·57 | 29·57 | 29·38 | 52 | 38 | 45· | — | 17 |
| 23 | E | 29·84 | 29·80 | 29·68 | 29·57 | 60 | 42 | 51· | — | 22 |
| 24 | E | 29·90 | 29·84 | 29·77 | 29·68 | 62 | 43 | 52·5 | — | 6 |
| 25 | E | 30·22 | 29·90 | 29·98 | 29·77 | 53 | 34 | 43·5 | — | 32 |
| 26 | NE | 30·22 | 29·93 | 29·98 | 29·40 | 51 | 40 | 45·5 | — | |
| 27 | SW | 29·93 | 29·75 | 29·54 | 29·20 | 54 | 40 | 47· | — | 6 |
| 28 | NW | 29·80 | 29·40 | 29·45 | 28·80 | 40 | 38 | 39· | — | — |
| 29 | NW | 30·04 | 29·80 | 29·71 | 29·45 | 40 | 33 | 36·5 | — | — |
| 30 | NW | 30·04 | 29·80 | 29·68 | 29·25 | 51 | 40 | 45·5 | — | 7 |
| | | 30·22 | 29·15 | 29·98 | 28·50 | 62 | 27 | 46·20 | 1·91 | 3·98 |

Notes.—Fourth Mo. 1. Cloudy. 2. Snow a. m. 3. Cloudy. 4. Fine. 5. Fine. 6. Showery. 7, 8. Showery. 9. Rainy. 10. Fine. 11, 12. Showery. 13. Showery: lunar halo. 14. Morning fine p. m.: very rainy. 15. Showery. 16. Very rainy: hail about noon. 17. Showers: some thunder. 18. Showers. 19. Showers: hail with thunder. 20, 21. Fine. 22. Rainy. 23. Cloudy: rainy night. 24. Overcast: drizzly. 25. Very rainy day: windy, with

frequent showers of sleet. 26. Fine. 27. Drizzly. 28. A violent north-west wind all day. 29. Boisterous: showers: hail. 30. Cloudy: cold wind.

## RESULTS.

Winds: NE, 2; E, 5; SE, 2; SW, 11; W, 1; NW, 9.

| | | |
|---|---|---|
| Barometer: | Greatest height | 30·22 in. |
| | Least | 29·15 in. |
| | Mean | 29·642 in. |
| Thermometer: | Greatest height | 62° |
| | Least | 27° |
| | Mean | 46·20 in. |
| Evaporation (in 19 days) | | 1·91 in. |
| Rain | | 3·98 in. |

[Clock Barometer at *Ackworth:* max. 29·98 in.; min. 28·50 in. mean 29·389 in.]

It is a singular fact, that on Thursday morning, during rather a dense fall of snow, *mackarel* were crying about London streets.—*P. L. April* 24.

*Penzance, April* 15.—From ten o'clock last night to six this morning, it blew a perfect hurricane at SSW, with a very heavy rain; since then very strong at WSW.

*Plymouth, April* 15.—Last night the wind suddenly shifted from SE to SW, blowing a complete gale.

*Harwich, April* 29.—It blew tremendously heavy all yesterday and during last night, from WNW to N, and NNE. Several vessels are now coming in for shelter.

*Holyhead, April* 28.—Throughout the day we have experienced a tremendous gale from WNW to NW by N.

*Scarbro', April* 29.—Yesterday, about 5 p. m. it came on to blow one of the most severe gales of wind, from N to NNE, accompanied with rain and sleet, ever experienced here, and until eight o'clock it was quite a hurricane, when it rather abated; but between one and two o'clock this morning it again increased, and blew a heavy gale, which has continued the whole day, though at intervals it has been less violent.

*Portsmouth, April* 30.—It has blown a hurricane all day, with very heavy showers of rain.

*New York, April* 15.—The New York Packet Ship, which was to sail from Liverpool the 16th of February, had not arrived, and fears were entertained for her safety, the weather off the coast having been very tempestuous for some weeks past. The Nile, Rocket, arrived here the 9th instant, from Havre, on the 24th and 26th ult. in lat. 43° long 50° *was surrounded with mountains of ice, the largest of which was about five miles long and six hundred feet high.*

*Memel, April* 11.—During this month we have had thaw and rain, and the current has removed the ice from our bar. The ice in the river is still fast, and much is to be seen at sea along the coast.

*Elsineur, April* 14.—We have lately had strong winds from the south-east, with some frost and snow.

*April* 18.—The wind is now NW. There is still drift ice in the Sound, but not in such quantities as to render the navigation dangerous.

*Memel, April* 21.—All this week the ice has come down with great force, owing to the immense flow of water in the country.

A letter to the Editor of *The Richmond Whig*, gives the following account of a tremendous hail-storm in Buckingham county, United States, on the 1st ult.

*Buckingham, April* 2.—Yesterday, about four o'clock in the afternoon, we had the greatest hail storm, attended with a good deal of thunder and rain, ever witnessed by the oldest people in the neighbourhood. *Some time before the storm began, there were large masses of dense fog rolling horizontally and playing before the clouds.* The largest lumps of hail were about the bigness of a walnut, but it fell with such a tremendous roar, and so fast, that in the space of twelve or fifteen minutes it was from two to four inches deep. Its general course seemed to be from the north-west to south-east. It has destroyed the window-glass as far as I have heard, and done considerable damage to the fruit-trees.—*P. L.*

The cold and backward spring which we have had has been the subject of general remark. Dr. Forster, who has lately returned from the Continent, has made a corresponding remark abroad. He says, "The crops, and particularly the garden productions and flowers, have been nearly a fortnight later than usual, almost all over Germany and the northern parts of France. At *Spa* the season was so cold and unpleasant, that most of the visitants had left it to travel elsewhere. There was ice on the water near Liege on the morning of the 8th of June. The thermometer, during the day, did not rise higher than 58°, and a cold dry wind seemed to threaten a total destruction of vegetation. *Paris*, however, we understand, was comparatively warm, and the climate seemed to change for the better in passing Arras into France."—*Annals of Philo. Sept.* 18, 1829.

Violent Storm.—On Tuesday last this town and neighbourhood were visited by a violent tempest of wind and rain, which continued several hours. Trees were blown down in every direction, and many a "forest monarch," that had successfully defied the storms of nearly a century, now lies extended on the plain. Several houses have been unroofed in the surrounding villages, but we are happy to add that no serious accident has occurred.—*Cheltenham Chronicle. P. L. May* 1.

*Grantham, April* 23.—The rains lately have been so frequent and heavy, the winds have been so bleak and tempestuous, and the progress of vegetation has been so slow and inconsiderable, that our spirits have been materially depressed. The ground, in all directions, is saturated with moisture; our hedges are almost as bare as at Christmas; the daisy and the butter-cup do not look half so beautiful; as for garden-flowers we can see none.

*Worcester.*—The weather still continues ungenial, and vegetation is almost at a stand-still. We have had some snow, and on Wednesday the wind was so boisterous that much damage has been done among the trees, &c. The heavy rains, combined with the coldness of the weather, have given the wheat, in some situations, an unhealthy appearance.—*Worcester Journal.*

*Plymouth.*—For some mornings we have had a severe frost, and yesterday there was a considerable fall of snow, with all the bitterness of December. The wall-fruit is in consequence greatly injured, if not wholly destroyed. So inclement a close to the month of April has not been witnessed for many years. A heavy gale from the NW, accompanied with showers of snow or hail, has blown, with little intermission, since Monday morning.—*Plymouth Journal. P. L. May* 2.

*Meteorological data.*

"The quantity of water actually contained in a cubic foot of air, saturated with moisture, appears to be about two grains at the freezing point, four grains at 48°, six grains at 60°, and eight grains at 68°: and the density of the vapour thus mixed with air is, according to the experiments of Saussure, about three-fourths of that of the air itself; so that moist air is always a little lighter than dry; and the more so, as the air is warmer, provided it be saturated by means of the presence of water."—*Young.*

"The larger drops of *rain*, which are about one-fifth of an inch in diameter, will fall two thousand and forty feet in a minute; but the ordinary drops, in this climate, will seldom fall half as fast. Hailstones in the south of Europe, having the enormous diameter of two inches, will fall with a velocity of one hundred and thirteen and a half feet in a second, or more than a mile and a quarter in a minute —a rapidity of stroke which destroys corn-fields, and ravages vineyards."—*Leslie's Elements.*

"The meteor of the 18th of August, 1783, was supposed to be fifty-six and a half miles above the earth, and one thousand and seventy yards in diameter."—*Young.*

This diameter will not admit of any other supposition, as to the nature of the body itself, than that of *a cloud of ignited matter;* from which (as I myself witnessed, who, being then a schoolboy, was drawn in an instant, by the intense light, to a window, and saw it through a great part of its course) there fell at intervals portions which had attained a closer state of aggregation, like hot cinders dropping from a fire.—L. H.

| 1829. | Wind. | Barometer. | | By Clock. | | Temp. | | Med. | Evap | Rain, &c. |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Max. | Min. | Max. | Min. | Max. | Min. | | | |
| 5mo.May 1 | NW | 29·80 | 29·79 | 29·33 | 29·24 | 57° | 46° | 51·5 | — | — |
| 2 | SW | 29·79 | 29·75 | 29·33 | 29·25 | 63 | 45 | 54· | — | |
| New M. 3 | W | 29·89 | 29·78 | 29·47 | 29·21 | 62 | 43 | 52·5 | — | 2 |
| 4 | NW | 30·08 | 29·89 | 29·75 | 29·47 | 63 | 41 | 52· | — | |
| 5 | SW | 30·08 | 30·01 | 29·65 | 29·54 | 64 | 50 | 57· | — | 6 |
| 6 | W | 30·06 | 30·01 | 29·69 | 29·60 | 60 | 43 | 51·5 | — | — |
| 7 | W | 30·21 | 30·06 | 29·87 | 29·60 | 61 | 42 | 51·5 | ·97 | 8 |
| 8 | NW | 30·21 | 30·20 | 29·87 | 29·85 | 62 | 43 | 52·5 | — | — |
| 9 | NW | 30·20 | 30·10 | 29·90 | 29·84 | 63 | 41 | 52· | — | |
| 10 | NW | 30·10 | 30·06 | 29·93 | 29·87 | 74 | 40 | 57· | — | |
| 11 | SE | 30·06 | 29·98 | 29·90 | 29·84 | 66 | 41 | 53·5 | — | |
| 12 | E | 29·98 | 29·92 | 29·84 | 29·80 | 68 | 38 | 53· | — | |
| 13 | SE | 29·98 | 29·98 | 29·79 | 29·68 | 68 | 38 | 53· | — | |
| 14 | NW | 29·98 | 29·90 | 29·75 | 29·67 | 70 | 42 | 56· | ·96 | — |
| 15 | NW | 30·05 | 29·97 | 29·86 | 29·75 | 76 | 50 | 63· | — | 8 |
| 16 | E | 30·13 | 30·05 | 29·93 | 29·86 | 66 | 38 | 52· | — | |
| 17 | E | 30·13 | 30·05 | 29·93 | 29·85 | 74 | 38 | 56· | — | |
| 18 | E | 30·05 | 29·92 | 29·85 | 29·76 | 74 | 50 | 62· | — | |
| 19 | E | 29·92 | 29·92 | 29·85 | 29·75 | 70 | 50 | 60· | — | |
| 20 | E | 30·03 | 29·92 | 30·01 | 29·85 | 73 | 52 | 62·5 | — | |
| 21 | NE | 30·09 | 30·03 | 30·01 | 29·96 | 74 | 39 | 56·5 | ·96 | |
| 22 | E | 30·13 | 30·09 | 30·00 | 29·95 | 72 | 43 | 57·5 | — | |
| 23 | NW | 30·13 | 30·09 | 29·99 | 29·86 | 81 | 48 | 64·5 | — | |
| 24 | NW | 30·32 | 30·09 | 30·30 | 29·92 | 70 | 43 | 56·5 | — | 20 |
| 25 | NE | 30·36 | 30·32 | 30·35 | 30·30 | 65 | 42 | 53·5 | — | |
| 26 | NE | 30·32 | 30·26 | 30·30 | 30·19 | 65 | 45 | 55· | — | |
| 27 | NE | 30·26 | 30·15 | 30·19 | 30·10 | 70 | 44 | 57· | — | |
| 28 | NE | 30·15 | 30·13 | 30·10 | 30·00 | 70 | 43 | 56·5 | ·94 | |
| 29 | NE | 30·15 | 30·11 | 30·02 | 30·00 | 70 | 47 | 58·5 | — | |
| 30 | NE | 30·17 | 30·11 | 30·00 | 29·92 | 65 | 43 | 54· | — | |
| 31 | NW | 30·22 | 30·17 | 29·97 | 29·87 | 70 | 45 | 57·5 | ·18 | |
| | | 30·36 | 29·75 | 30·35 | 29·21 | 81 | 38 | 55·79 | 4·01 | 0·44 |

NOTES.—Fifth Mo. 1. Cloudy: fine: wind high. 2. Cloudy. 3. Showers. 4, 5. Fine. 6. Showers: cloudy. 7. Cloudy and fine. 8. Cloudy. 9—23. Fine. 24. Cloudy morning: rainy, p. m. 25. Cloudy and fine: cold wind. 26—31. Fine.

## RESULTS.

Winds: NE, 7; E, 7; SE, 2; SW, 2; W, 3; NW, 10.

| | | |
|---|---|---|
| Barometer: | Greatest height | 30·36 in. |
| | Least | 29·75 in. |
| | Mean | 30·06 in. |
| Thermometer: | Greatest height | 81° |
| | Least | 38° |
| | Mean | 55·79° |
| Evaporation | | 4·01 in. |
| Rain | | 0·44 in. |

[Clock Barometer at *Ackworth*, max. 30·35 in.; min. 29·21 in. mean. 29·838 in.]

The month was in these parts in the dry extreme; but I find in the *Bibl. Univ.* 14me Anné, page 248, a memoir "on the effect of rains of the month of May, 1829, as injurious to the culture of the silkworm, of corn, and artificial grasses, *in the district of Alais*, Switzerland."

*Revel, May* 13.—A heavy eastern gale, which lasted three days, has cleared the ice from our roads.

*Deal, May* 26.—Throughout last night and this day it continued a gale. The gale, however, has somewhat abated this evening. Wind NE.

Backwardness of the Season.—The Drapers' Company, at their annual dinner, held on the 29th of May, offered sixty guineas for sixty quarts of green peas in Covent Garden, which price was refused. Last year, on the same day of the year, their green peas were purchased at 2s. 6d. per quart. We may add, that on Wednesday last [17th June] the price had fallen to 10d. a quart.—*P. L.* [A *premium* this, we may conclude, to the diligent and successful gardener!]

### An Ice-board.

*Gilbert* in his *Annalen*, xvi. 75, (from newspaper authority only,) gives account of a "hailstone," fallen in Hungary in 1803, which exceeded the strength of eight men to lift it! Doubtless this was what is sometimes called "an ice-board," formed of hail agglutinated in a hollow, by partial fusion on the surface, the water freezing again by the intense cold within.

Hail of twenty-three ounces weight is said to have fallen in the Pyrennees, in 1784; and of fourteen inches in circumference, in Hertfordshire, 4th May, 1697.—*Nicholson's Journal*, viii. 73.

| 1829. | Wind. | Barometer. | | By Clock. | | Temp. | | Med. | Evap | Rain, &c. |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Max. | Min. | Max. | Min. | Max. | Min. | | | |
| 6mo.June1 | NW | 30·25 | 30·22 | 30·02 | 29·97 | 65° | 46° | 55·5 | — | |
| N. M. 2 | NW | 30·22 | 30·14 | 30·00 | 29·90 | 75 | 58 | 66·5 | — | |
| 3 | NW | 30·14 | 30·03 | 29·90 | 29·79 | 80 | 56 | 68· | — | |
| 4 | NW | 30·03 | 29·92 | 29·84 | 29·60 | 72 | 55 | 63·5 | — | 4 |
| 5 | NW | 30·16 | 29·91 | 30·04 | 29·76 | 65 | 43 | 54· | — | |
| 6 | NW | 30·30 | 30·16 | 30·11 | 30·04 | 60 | 40 | 50· | — | |
| 7 | NE | 30·30 | 30·30 | 30·12 | 30·09 | 61 | 42 | 51·5 | — | |
| 8 | NW | 30·32 | 30·27 | 30·16 | 30·10 | 65 | 36 | 50·5 | ·94 | — |
| 9 | N | 30·33 | 30·22 | 30·20 | 30·14 | 65 | 40 | 52·5 | — | |
| 10 | Var. | 30·37 | 30·26 | 30·20 | 30·15 | 76 | 38 | 57· | — | |
| 11 | SE | 30·28 | 30·25 | 30·16 | 30·09 | 75 | 43 | 59· | — | |
| 12 | SW | 30·25 | 30·19 | 30·09 | 30·04 | 76 | 42 | 59· | — | |
| 13 | SW | 30·19 | 30·14 | 30·04 | 29·94 | 80 | 48 | 64· | — | |
| 14 | SW | 30·14 | 30·03 | 29·94 | 29·71 | 81 | 52 | 66·5 | — | |
| 15 | SW | 30·03 | 29·81 | 29·71 | 29·38 | 78 | 54 | 66· | ·96 | |
| 16 | NW | 29·85 | 29·81 | 29·55 | 29·43 | 76 | 48 | 62· | — | 7 |
| 17 | W | 29·90 | 29·85 | 29·66 | 29·55 | 75 | 46 | 60·5 | — | 12 |
| 18 | NW | 30·03 | 29·90 | 29·76 | 29·66 | 68 | 45 | 56·5 | — | — |
| 19 | SW | 30·03 | 29·89 | 29·72 | 29·60 | 71 | 48 | 59·5 | — | |
| 20 | SE | 29·89 | 29·75 | 29·60 | 29·50 | 80 | 56 | 68· | — | 10 |
| 21 | SE | 29·79 | 29·75 | 29·53 | 29·50 | 70 | 52 | 61· | — | 9 |
| 22 | SE | 29·87 | 29·79 | 29·60 | 29·50 | 61 | 54 | 57·5 | ·95 | 9 |
| 23 | S | 29·94 | 29·87 | 29·75 | 29·60 | 74 | 54 | 64· | — | 27 |
| 24 | SW | 29·97 | 29·94 | 29·82 | 29·75 | 74 | 52 | 63· | — | |
| 25 | E | 29·94 | 29·85 | 29·80 | 29·60 | 76 | 54 | 65· | — | 18 |
| 26 | NW | 29·85 | 29·62 | 29·60 | 29·40 | 78 | 56 | 67· | — | 18 |
| 27 | SE | 29·62 | 29·42 | 29·40 | 29·30 | 80 | 59 | 69·5 | — | 13 |
| 28 | NE | 29·63 | 29·42 | 29·47 | 29·31 | 77 | 55 | 66· | — | 25 |
| 29 | NW | 29·72 | 29·63 | 29·48 | 29 43 | 61 | 49 | 55· | — | 8 |
| 30 | S | 29·72 | 29·65 | 29·44 | 29 25 | 76 | 55 | 65·5 | ·95 | 54 |
| | | 30·37 | 29·42 | 30·20 | 29·25 | 81 | 36 | 60·78 | 3·80 | 2·14 |

Notes.—Sixth Mo. 1—3. Fine. 4. Fine: a little rain in the night. 5—7. Fine. 8. Showers. 9—12. Fine. 13. Distinct solar halo at six p. m. 14. Fine. 15. Cloudy. 16. Showers. 17. Showers. 18. Light showers: some thunder. 19, 20. Fine. 21. A heavy shower about two p. m.: solar halo six p. m. 22. Rainy. 23. Showers: fine. 24—25. Fine. 26, 27. Cloudy and fine. 28. Showery: rainy night. 29. Showery. 30. Rainy.

## RESULTS.

Winds: N, 1; NE, 2; E, 1; SE, 5; S, 2; SW, 6; W, 1; NW, 11. Var. 1.

| | | |
|---|---|---|
| Barometer: | Greatest height | 30·37 in. |
| | Least | 29·42 in. |
| | Mean | 29·983 in. |
| Thermometer: | Greatest height | 81° |
| | Least | 36° |
| | Mean | 60·78° |
| Evaporation | | 3·80 in. |
| Rain | | 2·14 in. |

[Clock Barometer at *Ackworth*, max. 30·20 in. min. 29·25 in. mean, 29·763 in.]

### *Destruction of a Windmill by Lightning.*

Toothill Mill, situate between Epping and Ongar, Essex, was struck by lightning, in the thunder-storm of the 18th, and blown to pieces; the miller narrowly escaping with his life, and not without a fractured leg, and being shockingly maimed and scorched. The following particulars of the accident are extracted from an account given by my friend, Thomas Squire of Epping, to the *London Mechanic's Magazine*, number 310. A drawing of the mill, in its shattered state, is annexed to the article in that publication.

On Thursday, June 18, in the afternoon, there was rain with frequent thunder; and between five and six o'clock, a windmill at Toothill, in the parish of Stanford Rivers, the property of Mr. Edward Rayner, was struck by the lightning. Those near the spot observed that the flash caused by this tremendous discharge of the electric fluid was attended with a peculiar whizzing noise, and the thunder, or rather crash which followed almost instantaneously, consisted of at least three distinct and rapid consecutive reports; this latter circumstance was, no doubt, owing to the imperfect conductors which the lightning met with in its passage through the mill.

At the time of this accident the head of the mill was to the north, so that the wind-shaft lay nearly in the plane of the meridian, and the sails were standing at an angle of 45° with the horizon, or what the millers term "cross sail." The right hand, or eastern upper sail, was first struck by the electric fluid, not at the extremity or highest point, but near the middle, where there were an iron band and bolt which fastened the sail to the arm; here it drove out the latter and separated the former, snapped in two the timbers, and then descended to the axis, and struck off the opposite sail. It then entered the upper part of the mill by the head of the shaft, and as it here came in contact with very imperfect conductors, its powerful effects were very visible; for it not only rived, but drove off a large portion of the shaft on the western side, destroyed the framework of the crown or cog-wheel, and in other re-

spects damaged or displaced every part of the machinery; the roof it completely drove off, and nearly all the boards round the mill as far as the floor. The electric fluid now became concentrated in the chain which was used for drawing up the sacks; this was in part fused, as the links were welded together in one solid mass. The good effect of the conducting power of the chain was very perceptible, as little or no damage was done in that section of the mill through which that part of the chain passed. By this chain the ethereal fire entered the lower apartment, and was diverted from its downward course by some half-hundred and other weights standing on the floor near the western side of the mill; here it tore up a large space of the floor, the weights were ejected into the yard to a considerable distance, and the boards were forced off as before with great violence, and thrown in every direction. From this part the lightning passed to the roof of the round-house, which rises nearly to the lower floor; and as this was covered with plates of iron, it here met with a ready passage, and, darting a short distance through the air to the iron braces under the stairs, it was thence conducted to the earth without doing any further damage. As the braces did not quite reach the ground, its course by that means was again a little interrupted; and in its last effort to overcome every obstacle opposed to its furious velocity, it tore up the stones and gravel, and finally made its exit by forming a large hole near the western side of the steps, in an oblique direction, and in size and appearance somewhat like a rabbit's burrow.

Such was the violence of the explosion, that a great many pieces of the boards and large fragments of the mill were thrown into the adjoining fields to an amazing distance, and some of them must have ascended to a great height in the air, as they were observed sticking upright in the hard ground, as if driven by a pile driver. [Compare the case of Great Marton Mill, in vol. I. p. 14.]

During a storm of thunder and lightning on Wednesday last, Mr. and Mrs. Jones, of Ragland, and Mr. Young, of Cwm Carvan, took shelter in the New Inn, on the road to Ragland, about four miles from Monmouth, and seated themselves in the kitchen. On a sudden two long and violent peals of thunder, that seemed to shake the building to its foundation, were heard, and immediately afterwards *a globular mass of electric fluid, about the size of a cricket-ball, and of a glowing crimson red, more lurid than common fire, entered the house at an open back door, passed through the kitchen, from thence along a passage, and went out at the front door.* Happily neither the house nor any of its inmates were injured.—*Monmouthshire Merlin. P. L. June* 26.

During the gale on Thursday last, a vessel was driven on the beach at Lydd; no boats could get off to the assistance of the crew, who were, however, all saved and brought to shore, through the activity of a fine Newfoundland dog. The surf was rolling furiously, and eight poor fellows were crying for aid, which the spectators could not afford them, when one man directed the attention of his dog to the vessel, and the intelligent animal at once swam towards it, and the crew joyfully made fast a rope to a piece of wood, which the dog seized and swam with to his master on shore;—a line of communication was thus formed, and the eight mariners rescued from a watery grave.—*Sussex Advertiser.*—*P. L. June* 10.

An alarming and serious effect from lightning was on Wednesday afternoon last experienced by two persons employed in repairing the spire of Salisbury Cathedral; they were engaged in forming a scaffold round the spire at the weather door, (a height of three hundred and eighty feet from the ground,) when

an awful flash of lightning, accompanied by appalling thunder, struck both of the men senseless; they had fortunately just retired within the door to avoid an expected storm, otherwise the effects of the shock must have proved fatal. One of the men (H. N. Reeves, whitesmith,) was so affected by the shock as to be rendered totally insensible for a considerable time, at the expiration of which he had no recollection of even hearing the thunder; the other (an older man, named Samuel Applin,) recovered very soon, but found his right arm much affected by a numbness, which did not go off for some time.—*Sherbourne Paper. P. L. June* 27.

*Distortion of a circular area, to the view, without refraction.*

*Tottenham,* 26th of Sixth Month, 1829. Going to-day past the gable of the new church, now finishing on the green, I was struck with an appearance in a stone inserted in the wall to serve as a dial-plate, such as is usually ascribed to *refraction;* but in which that cause could not be admitted—the distance from the eye not exceeding sixty yards, with the objects in full day-light. A scaffold-pole had been left in a horizontal position, so as to intervene and bisect the circular area on the face of the stone, the pole being some feet on this side. The effect was, that the figure appeared *elongated in the direction of the perpendicular,* in the manner in which we see the sun's or moon's disc, when crossed by a line of *Cirrostratus* cloud. See fig. 2, in the plate at page 326.

Could this be an effect of the inflection of the rays in passing the pole—or may it not be the result of habit, interrupted, and endeavouring to resume its former mode of action—so that having been accustomed to view the circle, *as a circle,* we may involuntarily put the whole together, the space covered by the intervening object notwithstanding? Persons who have been couched, have found that they made out this figure by running the eye round it; and if this method, however quickly and imperceptibly pursued, be that of our ordinary vision, it seems not unreasonable to suppose such an effect of habit in the case as I have mentioned. I should not, of course, apply the same reasoning to the elongation of the entire luminous disc, by refraction in the intervening medium; which is not uncommon, even in connexion with the distorted figure consequent on the intervention of the *Cirrostratus* in a clouded sunset. —L. H.

| 1829. | Wind. | Barometer. | | By Clock. | | Temp. | | Med. | Evap | Rain, &c. |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Max. | Min. | Max. | Min. | Max. | Min. | | | |
| 7mo. July 1 | S | 29·65 | 29·58 | 29·25 | 29·00 | 64° | 53° | 58·5 | — | 26 |
| New M. 2 | SW | 29·60 | 29·58 | 29·26 | 29·10 | 72 | 52 | 62· | — | — |
| 3 | S | 29·61 | 29·60 | 29·27 | 28·99 | 64 | 52 | 58· | — | 12 |
| 4 | SW | 29·62 | 29·61 | 29·26 | 29·05 | 68 | 48 | 58· | — | 13 |
| 5 | NW | 29·88 | 29·62 | 29·50 | 29·25 | 68 | 50 | 59· | — | 13 |
| 6 | W | 29·88 | 29·87 | 29·58 | 29·48 | 70 | 54 | 62· | — | |
| 7 | W | 29·87 | 29·81 | 29·48 | 29·25 | 64 | 54 | 59· | — | 31 |
| 8 | W | 29·81 | 29·73 | 29·48 | 29·44 | 70 | 53 | 61·5 | — | |
| 9 | NW | 29·86 | 29·73 | 29·60 | 29·48 | 72 | 47 | 59·5 | ·96 | — |
| 10 | SW | 29·73 | 29·57 | 29·50 | 29·25 | 77 | 48 | 62·5 | — | 3 |
| 11 | NW | 29·57 | 29·45 | 29·24 | 29·07 | 65 | 55 | 60· | — | 75 |
| 12 | W | 29·64 | 29·45 | 29·35 | 29·06 | 70 | 54 | 62· | — | 8 |
| 13 | SW | 29·84 | 29·64 | 29·47 | 29·35 | 71 | 62 | 66·5 | — | — |
| 14 | S | 29·93 | 29·84 | 29·61 | 29·47 | 76 | 54 | 65· | — | 26 |
| 15 | W | 29·87 | 29·84 | 29·67 | 29·60 | 74 | 64 | 69· | — | — |
| 16 | NW | 29·87 | 29·86 | 29·64 | 29·25 | 72 | 62 | 67· | — | 15 |
| 17 | S | 29·86 | 29·55 | 29·25 | 29·15 | 64 | 58 | 61· | — | 40 |
| 18 | SW | 29·87 | 29·55 | 29·57 | 29·25 | 70 | 58 | 64· | — | 98 |
| 19 | NW | 30·04 | 29·87 | 29·75 | 29·57 | 64 | 58 | 61· | ·98 | 8 |
| 20 | NW | 30·15 | 30·04 | 29·92 | 29·77 | 70 | 50 | 60· | — | |
| 21 | NW | 30·15 | 30·13 | 29·90 | 29·82 | 75 | 58 | 66·5 | — | |
| 22 | NW | 30·13 | 29·95 | 29·86 | 29·83 | 74 | 52 | 63· | — | |
| 23 | NW | 30·15 | 29·95 | 29·87 | 29·75 | 75 | 53 | 64· | — | |
| 24 | E | 29·95 | 29·80 | 29·75 | 29·60 | 76 | 58 | 67· | — | |
| 25 | SW | 29·97 | 29·80 | 29·90 | 29·70 | 78 | 55 | 66·5 | — | |
| 26 | NE | 30·06 | 29·97 | 29·90 | 29·87 | 62 | 44 | 53· | — | 12 |
| 27 | N | 30·06 | 30·03 | 29·86 | 29·75 | 71 | 40 | 55·5 | — | |
| 28 | S | 30·03 | 29·66 | 29·75 | 29·45 | 71 | 50 | 60·5 | — | 8 |
| 29 | SE | 29·74 | 29·66 | 29·61 | 29·44 | 73 | 44 | 58·5 | ·96 | — |
| New M. 30 | NE | 29·96 | 29·74 | 29·85 | 29·61 | 74 | 53 | 63·5 | — | 12 |
| 31 | N | 30·19 | 29·96 | 29·96 | 29·85 | 77 | 48 | 62·5 | ·10 | 1 |
| | | 30·19 | 29·45 | 29·96 | 28·99 | 78 | 40 | 61·80 | 3·00 | 4·01 |

Notes.—Seventh Mo. 1. Showery. 2. Fine. 3. Showery: a very stormy night. 4, 5. Showery. 6. Fine. 7. Rainy. 8, 9. Fine. 10. Fine: showers at six p. m. 11. Rainy. 12. Showery. 13. Fine. 14. Showery. 15. Fine. 16, 17. Showery. 18. A very wet day. 19. Showery afternoon. 20—23. Fine. 24. Thunder and lightning in the night. 25. Fine. 26. Showery. 27, 28. Fine. 29. Showery morning. 30. Showery evening. 31. Showery.

## RESULTS.

Winds: N, 2; NE, 2; E, 1; SE, 1; S, 5; SW, 6; W, 5; NW, 9.

| | | |
|---|---|---|
| Barometer: | Greatest height | 30·19 in. |
| | Least | 29·45 in. |
| | Mean | 29·806 in. |
| Thermometer: | Greatest height | 78° |
| | Least | 40° |
| | Mean | 61·80° |
| Evaporation | | 3·00 in. |
| Rain | | 4·01 in. |

[Clock Barometer at *Ackworth*, max. 29·96 in.; min. 28·99 in. mean, 29·522 in.]

*Dover*, *July* 14.—A tremendous thunder-storm has visited this town and neighbourhood in the course of this afternoon. About three o'clock the heat of the sun was excessive, and the clouds began to present an awful appearance from the SW, and hung like dark mountains in terrific array. At four the thunder began to roll, and the rain and hail fell in masses, while the continued peals of thunder, and the vivid flashes of lightning, were truly alarming. In about an hour the cloud broke, and dispersed in various directions, chiefly towards the NE, and the blue sky again made its appearance between the openings. The water rushed down the streets in torrents, and the road, in some places, was covered more than two feet deep, while many of the lower stories were completely inundated. The hail-stones were very large, and great damage must have been sustained by them.

*Basingstoke.*—It has rained for nearly a month with very little intermission; the consequences of which, in the agricultural world, have been various. Thousands, and tens of thousands of loads of upland and meadow hay have been spoiled, the former so completely, as, even with the assistance of salt, to be scarcely worth the expence of stacking, and much of it will be drawn into the yards for manure. On the other hand, had it not been for the rain, barley, oats, and pulse would have been under half a crop. The wheat could have dispensed with it, for, with the exception of now and then a feeding shower, it fructifies more abundantly under a cloudless sky and a warm sun. Neither is this all—the heavy showers, assisted by the driving winds, have broken much of the straw, which will not only prevent the ears from filling well, but a handsome sample is never produced from lodged grain; in addition to which, it becomes an easy prey to the birds, who could not alight upon it, if upright. On the whole, I have reason to hope the harvest will not be an unproductive one, and the excellent plant of turnips, which the late showery weather has ensured, will obviate the damage to the hay, which does not appear to rise in price.—*P. L. July* 17.

*Aylesbury*, *July* 19.—We have had rain, more or less, for the last two-and-thirty days. The barometer is now at 29½°, but falling weather still continues. Yesterday the morning was showery, and in the afternoon we experienced a violent thunder-storm. It began at a quarter-past two, the barometer 29·25 in. external thermometer 59°, wind SW. the lightning very vivid, the thunder like the dis-

charge of heavy cannon. The rain came down in such torrents, that the market was deserted, and the gardeners' fruit baskets floated down the streets as in a river.

*Accidents by Lightning.*

A tremendous storm of thunder and lightning broke upon the metropolis about one o'clock on Saturday morning. The sky had been lighted up the whole evening by vivid electrical flashes, and so late as half-past twelve the stars were visible, when a dark cloud suddenly arose, and in a few minutes one of the heaviest showers of rain and hail ever witnessed fell in torrents from its bosom. Peals of thunder soon followed, and continued rolling with scarcely any intermission for upwards of two hours, accompanied with awful bursts of lightning; the residents of Bow, Stratford, and Bromley, were thrown into the greatest consternation by the violence of the storm: one poor fellow lost his life, and two others have been so severely injured, that but faint hopes are entertained of their recovery. The three sufferers, Sullivan, Salter, and Fitzpatrick, were engaged in excavating a canal, at present constructing by Sir George Ducket, at Old Ford, and were, at half-past two o'clock on Saturday morning, diligently employed in their work, when the storm commenced. Sullivan was at once struck lifeless, and Fitzpatrick and Salter were so seriously injured as to make it necessary to procure immediate medical attendance. Fitzpatrick was removed to his lodgings at Bow, where he was attended by Dr. Fairhead, who on examining his person, found that his left side had been most seriously injured, and that there was reason to believe his intestines had suffered severely from the shock. The damage which Salter sustained has not been of so serious a nature.

During the continuance of the lightning on Friday evening, a man who was employed in pumping in Bethnal-green-fields, which the late heavy rains have flooded, was struck by a sudden flash, which caused his instantaneous death. The clothes exhibited a singular appearance, being literally torn to atoms, and every part of the metal in his buttons had the appearance of having been fused. The body itself showed no traces of the electric fluid, with the exception of a slight mark on the forehead. *P. L. July* 27.

The crop of apples this year will equal, and perhaps exceed, any thing within the last thirty years. In all the orchards around and below Taunton, &c. the branches are so loaded as to require propping. The crop of walnuts is also prodigiously great.—*Bath Herald. P. L. July* 28.

*Manifold Anthelion.*

I observed this afternoon, (15th of Seventh Month,) that the Anthelion was susceptible of a quintuple figure, the discs running into each other in a horizontal arrangement, as shown in fig. 3, opposite. There were four or five discernible, the middle one of which became at length the most conspicuous, and constituted the usual phenomenon. The sun shone at the time on the cloud through a space in another cloud; and the cloud in which it appeared was in consequence considerably dark in the remainder of its surface. There is no doubt that, *here,* the inflection of light (previous to incidence and reflexion) was concerned in producing the phenomenon.

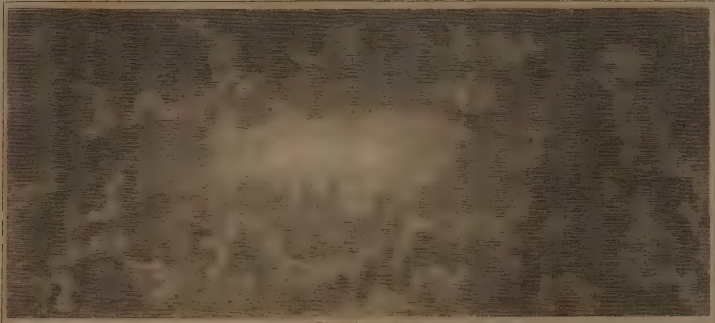

Fig. 3. See p. 326.

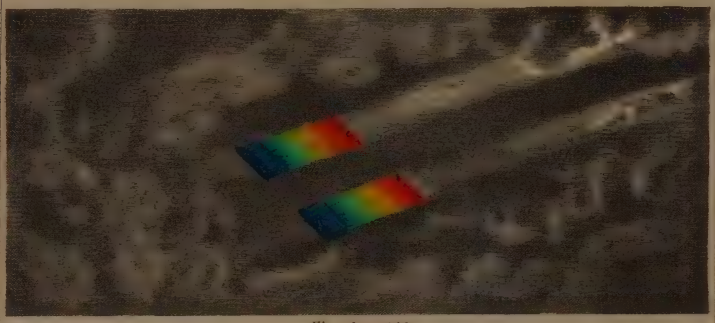

Fig 4. See p. 366.

Fig 1. See p. 327.

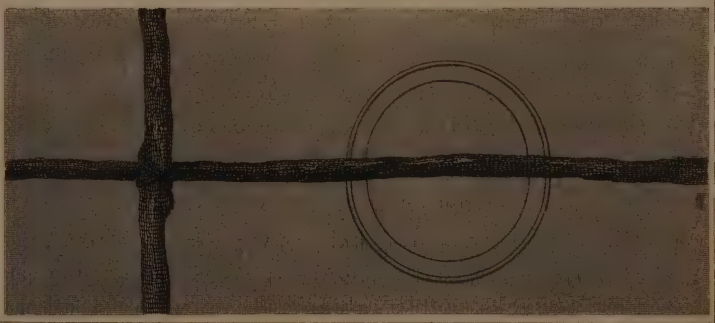

Fig. 2. See p. 323.

*Parhelion and Irides.*

The following observation I owe to my son, John Eliot Howard. "On the evening of the 30th of Sixth Month, 1830, the sun was observed from Helme Lodge, near Kendal, to be setting behind a light veil of vapour, which in some degree obscured its brightness before it sank behind Scout Scar, a high ridge of land to the west. After watching it for some time, a luminous arc was observed at the distance of perhaps 20° from the descending luminary. Immediately over the sun, in the direction toward the zenith, appeared brighter parts of the arc, and through the whole the prismatic colours were distinctly traced. After the sun had sunk below the horizon, (I should think ten minutes,) a part of a column of light, which extended upwards to the bright spot above mentioned, increased gradually in brightness, till several persons present compared its appearance to that of the newly-risen sun shining through a mist. At the same time, the bright spot in the centre of the arc spread itself upward into diverging circular segments, and became more luminous as the rest of the Iris faded." See fig. 1, in the plate at page 326, for the whole appearance.

| 1829. | Wind. | Barometer. | | By Clock. | | Temp. | | Med. | Evap | Rain, &c. |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Max. | Min. | Max. | Min. | Max. | Min. | | | |
| 8m. Aug. 1 | NW | 30·20 | 30·19 | 29·97 | 29·95 | 71° | 46° | 58·5 | — | |
| 2 | W | 30·21 | 30·06 | 29·97 | 29·60 | 76 | 55 | 65·5 | — | |
| 3 | SW | 30·06 | 29·83 | 29·60 | 29·34 | 73 | 49 | 61· | — | 33 |
| 4 | NW | 29·89 | 29·83 | 29·76 | 29·40 | 63 | 52 | 57·5 | — | 48 |
| 5 | NW | 30·05 | 29·89 | 29·83 | 29·77 | 66 | 48 | 57· | — | — |
| 6 | S | 30·13 | 30·05 | 29·92 | 29·79 | 73 | 53 | 63· | — | 13 |
| 7 | SE | 30·16 | 30·13 | 29·98 | 29·93 | 73 | 55 | 64· | — | — |
| 8 | SE | 30·16 | 30·04 | 29·95 | 29·70 | 79 | 57 | 68· | — | |
| 9 | SW | 30·04 | 29·89 | 29·69 | 29·56 | 75 | 55 | 65· | ·91 | 43 |
| 10 | NW | 30·07 | 29·89 | 29·85 | 29·57 | 69 | 49 | 59· | — | 20 |
| 11 | NW | 30·08 | 30·07 | 29·90 | 29·85 | 70 | 53 | 61·5 | — | |
| 12 | SE | 30·08 | 29·77 | 29·88 | 29·65 | 75 | 58 | 66·5 | — | — |
| 13 | SW | 29·77 | 29·52 | 29·65 | 29·31 | 76 | 58 | 67· | — | |
| 14 | SE | 29·57 | 29·45 | 29·45 | 29·33 | 72 | 50 | 61· | — | 1·10 |
| 15 | NW | 29·99 | 29·57 | 29·79 | 29·45 | 65 | 49 | 57· | — | 30 |
| 16 | NW | 30·18 | 29·99 | 29·86 | 29·79 | 63 | 43 | 53· | — | |
| 17 | NW | 30·18 | 29·89 | 29·84 | 29·45 | 70 | 49 | 59·5 | — | — |
| 18 | W | 29·89 | 29·56 | 29·45 | 29·09 | 65 | 40 | 52·5 | ·95 | 40 |
| 19 | NW | 29·56 | 29·31 | 29·12 | 28·99 | 70 | 53 | 61·5 | — | 12 |
| 20 | NW | 29·87 | 29·41 | 29·55 | 29·12 | 65 | 45 | 55· | — | — |
| 21 | NW | 29·97 | 29·87 | 29·70 | 29·55 | 65 | 50 | 57·5 | — | |
| 22 | SW | 29·97 | 29·57 | 29·55 | 29·05 | 67 | 50 | 58·5 | — | 50 |
| 23 | SW | 29·57 | 29·38 | 29·05 | 28·87 | 70 | 57 | 63·5 | — | 13 |
| 24 | NW | 29·96 | 29·57 | 29·54 | 28·98 | 62 | 48 | 55· | — | 8 |
| 25 | NW | 30·10 | 29·96 | 29·77 | 29·55 | 65 | 44 | 54·5 | — | |
| 26 | SW | 30·10 | 29·66 | 29·70 | 28·88 | 65 | 58 | 61·5 | — | 4 |
| 27 | W | 29·66 | 29·56 | 29·35 | 28·75 | 65 | 50 | 57·5 | — | — |
| 28 | NW | 29·96 | 29·56 | 29·90 | 29·35 | 62 | 53 | 57·5 | ·93 | 75 |
| New M. 29 | NE | 30·20 | 29·96 | 30·03 | 29·90 | 65 | 51 | 58· | — | |
| 30 | N | 30·20 | 30·12 | 30·00 | 29·93 | 64 | 50 | 57· | — | |
| 31 | N | 30·12 | 30·03 | 29·93 | 29·83 | 64 | 53 | 58·5 | ·30 | 12 |
| | | 30·21 | 29·31 | 30·03 | 28·75 | 79 | 40 | 59·74 | 3·09 | 5·11 |

Notes.—Eighth Mo. 1, 2. Fine. 3. Rainy: boisterous night. 4. Cloudy day: rainy night. 5—9. Cloudy. 10. Rainy morning: fine afternoon. 11, 12. Fine. 13. Cloudy. 14. Very heavy rain p. m.: thunder. 15. Rainy. 16. Cloudy and fine. 17. Cloudy. 18. Rainy day. 19. Ditto: rain in the night, with lightning. 20, 21. Cloudy. 22. Cloudy: rainy night. 23. Cloudy. 24. Rainy. 25. Cloudy and fine. 26. Cloudy with showers. 27. morning fine: evening rainy: night stormy. 28. Very high wind all day. 29. Cloudy and fine. 30. Fine. 31. Cloudy and fine: rain in the night.

## RESULTS.

Winds: N, 2; NE, 1; SE, 4; S, 1; SW, 6; W, 3; NW, 14.

| | | |
|---|---|---|
| Barometer: | Greatest height . . . . | 30·21 in. |
| | Least . . . . . | 29·31 in. |
| | Mean . . . . . | 29·89 in. |
| Thermometer: | Greatest height . . . | 79° |
| | Least . . . . . | 40° |
| | Mean . . . . . | 59·74° |
| Evaporation . . . . . | | 3·09 in. |
| Rain . . . . . | | 5·11 in. |

[Clock Barometer at *Ackworth:* max. 30·03 in.; min. 28·75 in.; mean, 29·595 in.]

This month was wet in the extreme, notwithstanding the great quantity of rain which fell in the last. It appears, however, to have afforded *some* good harvest-weather in the south. In the *north*, the season was very unfavourable, (as stated, August 20, in an article from Newcastle-upon-Tyne,) *from cold rains, which continued to fall in showers that lasted a considerable time.* At *Ackworth* there fell, by the School guage, 5·19 inches, and it rained on twenty-five days of the month. The papers contain accounts of thunder-storms, and floods consequent on heavy rains, in different parts of the country; *but the most calamitous of these, by far, and indeed without a parallel in the history of the district, befell the north of Scotland:* for the details of which I must refer the reader to a volume entitled, "Account of the great Floods in the province of Moray, &c. August 1829. By Sir Thomas Dick Lauder, Bart, &c." Second Edition, pp. 434. 1830.

*Dover, Aug.* 20.—The weather for the last few days has been dismal, and it might almost be fancied that we were passing through the month of November instead of August. It rained in torrents nearly all last night, attended with violent thunder, and the most vivid flashes of lightning, and it has rained hard, with little intermission, all day. The passage this summer to France has been nothing like what it has heretofore been, which may be mainly attributed to the continued rains and cold weather.

*Liverpool.*—During the nights of Tuesday and Wednesday, [25th and 26th,] the wind blew at intervals a complete hurricane, with very heavy showers, and the same weather continued almost the whole of yesterday and this morning, and we fear that it will have a serious effect upon the harvest in this neighbourhood, most of which is cut, but very little housed. The wind and rain together, we fear, will have threshed out much of the corn.—*Liverpool Mercury.*

*Plymouth, Aug.* 26.—It has blown a complete gale all day from S to SSW, and still continues, with every appearance of a stormy night; the whole of the shipping ride in safety.

*Topsham, Aug.* 27.—It has blown very hard from SSW and WNW yesterday and to-day, with rain.

*Whitstable, Aug.* 28.—It has blown heavily the last two or three days, and to-day, varying from N to W.

*Ryde, Aug.* 28.—Dreadful weather last night, with torrents of rain, and some thunder and lightning.

*Cardiff, Aug.* 28.—During the whole of yesterday, and until midnight, it blew a tremendous gale at WSW.

*Deal, Aug.* 29.—Last night and this morning it has blown a gale from NNW to NNE. In the course of the day it shifted to ENE. Weather more moderate.

### Storm and Inundation.

From the *Elgin Courier* of Friday, Aug. 28.—We are again visited with a truly alarming storm, which is raging with tremendous fury at the moment at which we write—Thursday afternoon, four o'clock. There is a melancholy similarity in the present storm to the ever-memorable one of the 3d instant, which has spread desolation and misery to so mournful an extent throughout the North of Scotland, but which has been peculiarly devastating in its effects in the county of Elgin. The storm commenced yesterday (Wednesday) evening, a little after nine o'clock, since which time it has not had a moment's cessation. We had fondly hoped, last night, that before the dawning of this morning it would have spent itself; but we have been disappointed. In the course of the night it greatly increased in its fury; and this morning, and during the whole of the day, has blown one of the greatest hurricanes we ever remember to have witnessed. While the winds have been tearing slates and tiles off houses, and uprooting trees, the rains have descended and are descending in prodigious torrents. Already we have too great reason to be apprehensive of being, in the course of to-morrow, visited with an inundation almost, if not entirely, as terrible as the one of the 4th inst.

*Ten o'clock in the Evening.*—Since the above was written, we are happy to say the sky has partially cleared up; but all the rivers in the neighbourhood are swelling with prodigious rapidity. For the last few hours Lossie has been rising at the rate of three feet per hour. All who have moveable property in the neighbourhood are removing it as fast as possible, and endeavouring to secure whatever they can against further damage.

### Effects of the late Floods in Scotland.

The loss of property on this occasion [Aug. 3] has necessarily been much greater than in 1768, on account of the improved agriculture and general condition of the North. The demolition and injury of the bridges and roads betwixt Aberdeen and the Grampians, must amount to one hundred thousand pounds. Of the loss on crops and fields, (for in many places the soil has been overlaid with stones and gravel to the depth of about two feet,) we dare not hazard a calculation, and it will be some time yet ere it can be accurately told. The loss sustained by the Duke of Gordon, will, it is stated, amount to thirty thousand pounds; and that by the Honourable Colonel Grant, M. P. to about twenty thousands pounds.—*P. L.*

About six hundred masons have left this city and Edinburgh for the northern districts, in expectation of procuring work in rebuilding many bridges which have been demolished by the storms.—*Glasgow Paper. Record, Sept.* 21.

The following extract, taken as it occurred first on opening the volume, may serve for a specimen of the interesting publication of Sir Thos. Dick Lauder, already mentioned.

"The river Feshie, a tributary from the right bank, [of the Spey,] immediately below Invereshie, was subjected to the full influence of the deluge. It swept vast stones and heavy trees along with it, roaring tremendously. Mr. Macpherson Grant's losses on this river, chiefly in wood, have been very considerable. Those of Mr. Mackintosh, of Mackintosh, are calculated at four hundred and eighty pounds, though he possesses but a small portion of one side of the glen. John Grant, the saw-miller's house, at Feshieside, on this property, was surrounded by four feet of water, about eight o'clock on the morning of the 4th. The people on the top of a neighbouring hill fortunately observed the critical situation of the family; and some men, in defiance of the tremendous rush of the water, then two hundred yards in breadth, gallantly entered, as Highlanders are wont to do in trying circumstances, shoulder to shoulder, and rescued the inmates of the house one by one, from a peril proved to be sufficiently imminent, by the sudden disappearance of a large portion of the saw-mill. But, great as was the danger in this case, the lonely and deserted situation of Donald Macpherson, shepherd in Glenfeshie, with his wife, and six little children, was still more frightful, and required all the firmness and resolute presence of mind characterizing the hardy mountaineer. His house stood on an eminence, at a considerable distance from the river. Believing, therefore, that whatever might come, he and his would be in perfect safety, he retired with his family to bed at the usual hour, on the evening of the 3d. At midnight he was roused by the more than ordinary thunder of the river, and getting up to see the cause, he plunged up to the middle in water. Not a moment was to be lost. He sprang into his little dwelling, lifted, one after the other, his children from their beds, and carried them almost naked, half asleep, and but half conscious of their danger, to the top of a hill. There, amidst the wild contention of the elements, and the utter darkness of the night, the family remained shivering, and in suspense, till day-break partially illuminating the wildness of the scenery of the narrow glen around them, informed them that the flood had made them prisoners in the spot where they were, the Feshie filling the whole space below, and cataracts falling from the rocks on all sides. Nor did they escape from their cliff of penance till the evening of the following day.

"The crops in Glenfeshie were annihilated. The romantic old bridge at Invereshie is of two arches, of thirty-four and twelve feet span. The larger of these is twenty-two feet above the river in its ordinary state, *yet the flood was three feet above the key stone*, which would make its height here above the ordinary level, about twenty-five feet. The force pressing on this bridge must have been immense; and, if we had not already contemplated the case of the Ferness-bridge, we should consider the escape of that of Feshie to be a miracle. Masses of the micaceous rock below the bridge, of several tons weight, were rent away, carried down, and buried under heaps of gravel at the lower end of the pool, fifty or sixty yards from the spot whence they were taken.

"The Feshie carried off a strong stone bulwark, a little farther down, overflowed and destroyed the whole low ground of Dalnavert, excavated a new channel for itself, and left an island between it and the Spey of at least two hundred acres. The loss of crop and stock, by the farmers hereabouts, is quite enormous, and the ruin to the land very great."—(p. 183.)

| 1829. | Wind. | Barometer. | | By Clock. | | Temp. | | Med. | Evap | Rain, &c. |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Max. | Min. | Max. | Min. | Max. | Min. | | | |
| 9 mo. Sep. 1 | N | 30·03 | 29·98 | 29·83 | 29·70 | 65° | 54° | 59·5 | — | — |
| 2 | NW | 30·18 | 29·98 | 29·93 | 29·70 | 65 | 48 | 56·5 | — | |
| 3 | NW | 30·18 | 30·04 | 29·91 | 29·70 | 65 | 50 | 57·5 | — | |
| 4 | NW | 30·04 | 29·80 | 29·70 | 29·38 | 68 | 47 | 57·5 | — | |
| 5 | SW | 29·80 | 29·57 | 29·38 | 29·04 | 62 | 53 | 57·5 | — | — |
| 6 | SW | 29·71 | 29·57 | 29·28 | 29·12 | 68 | 47 | 57·5 | — | — |
| 7 | SW | 29·71 | 29·56 | 29·30 | 29·14 | 66 | 49 | 57·5 | — | 31 |
| 8 | SW | 29·71 | 29·56 | 29·30 | 29·14 | 65 | 48 | 56·5 | — | 20 |
| 9 | SW | 29·71 | 29·45 | 29·35 | 29·10 | 65 | 47 | 56· | ·97 | 42 |
| 10 | SE | 29·60 | 29·45 | 29·76 | 29·02 | 55 | 52 | 53·5 | — | 3 |
| 11 | NW | 29·70 | 29·60 | 29·30 | 29·27 | 60 | 53 | 56·5 | — | 36 |
| 12 | SW | 29·65 | 29·60 | 29·30 | 29·22 | 65 | 52 | 58·5 | — | — |
| 13 | SW | 29·65 | 29·26 | 29·22 | 28·92 | 65 | 45 | 55· | — | 45 |
| 14 | NW | 29·75 | 29·26 | 29·37 | 28·95 | 55 | 42 | 48·5 | — | — |
| 15 | NW | 29·83 | 29·67 | 29·54 | 29·37 | 62 | 44 | 53· | — | 45 |
| 16 | E | 29·96 | 29·65 | 29·58 | 29·42 | 57 | 42 | 49·5 | — | 4 |
| 17 | NW | 29·96 | 29·26 | 29·58 | 29·03 | 65 | 50 | 57·5 | — | 74 |
| 18 | SW | 29·54 | 29·23 | 29·40 | 28·99 | 67 | 47 | 57· | — | — |
| 19 | NW | 30·30 | 29·54 | 29·70 | 29·40 | 67 | 46 | 56·5 | — | 13 |
| 20 | NW | 30·30 | 29·85 | 29·65 | 29·36 | 60 | 50 | 55· | — | 13 |
| 21 | NW | 29·95 | 29·85 | 29·50 | 29·45 | 65 | 44 | 54·5 | — | |
| 22 | SW | 29·95 | 29·91 | 29·60 | 29·49 | 64 | 43 | 53·5 | — | |
| 23 | W | 30·02 | 29·91 | 29·77 | 29·60 | 61 | 48 | 54·5 | ·94 | |
| 24 | NW | 30·11 | 30·02 | 29·92 | 29·77 | 63 | 44 | 53·5 | — | — |
| 25 | NW | 30·28 | 30·11 | 29·96 | 29·85 | 63 | 38 | 50·5 | — | |
| 26 | SE | 30·28 | 29·95 | 29·85 | 29·49 | 65 | 40 | 52·5 | — | |
| 27 | SW | 29·95 | 29·95 | 29·60 | 29·46 | 63 | 44 | 53·5 | — | 9 |
| New M. 28 | NW | 30·06 | 29·95 | 29·77 | 29·60 | 58 | 37 | 47·5 | — | |
| 29 | NW | 30·27 | 30·06 | 30·04 | 29·77 | 58 | 33 | 45·5 | — | |
| 30 | SW | 30·30 | 30·27 | 30·13 | 30·04 | 60 | 39 | 49·5 | ·52 | |
| | | 30·30 | 29·23 | 30·13 | 28·92 | 68 | 33 | 54·38 | 2·43 | 3·35 |

Notes.—Ninth Mo. 1. Showery. 2. Cloudy. 3, 4. Fine. 5. Cloudy. 6. Showery. 7. Showery: rainy night. 8. Showery. 9. Fine morning: wet night. 10. Showers. 11. Morning fine: evening rainy: high wind. 12. Fine. 13. Fine day: rainy night. 14. Showers. 15. Thunder-storm at four p. m.: rainy night. 16. Showers. 17. Fine day: rainy night. 18. Cloudy. 19. Showery. 20. Fine day: rainy night. 21. Fine. 22. Foggy: fine. 23—26. Fine. 27. Rainy morning: fine afternoon. 28, 29. Fine. 30. Foggy morning.

## RESULTS.

Winds: N, 1; E, 1; SE, 2; SW, 11; W, 1; NW, 14.

| | | |
|---|---|---|
| Barometer: | Greatest height | 30·30 in. |
| | Least | 29·23 in. |
| | Mean | 29·837 in. |
| Thermometer: | Greatest height | 68° |
| | Least | 33° |
| | Mean | 54·38° |
| Evaporation | | 2·43 in. |
| Rain | | 3·35 in. |

[Clock Barometer at *Ackworth:* max. 30·13 in. min. 28·92 in. mean, 29·498 in.

The books at Lloyd's yesterday exhibited a most melancholy picture of the effects of the late gales along the British coast, (to which our publications of this and the preceding day bear ample testimony.) Not less than twenty-seven losses are posted, and many of them are total wrecks.—*P. L. Sept.* 1.

*Ryde, Sept.* 8.—We had a complete gale last night, and it has continued so all day; at 6 p. m. rather more moderate. All the shipping are riding safely.

*Boscastle, Sept.* 11.—A furious gale from NNW commenced yesterday at 3 p. m. and continued throughout the night.

*Fisgard, Sept.* 10.—The wind this morning shifted from SE to NNE, and increased to a fresh gale at noon, and now, (2 p. m.) it blows hard and squally.

*Havre, Sept.* 10.—The weather continues stormy with rain.

*Padstow, Sept.* 10.—At half past 4 p. m. a large schooner is come on shore in Hell Bay, blowing quite a hurricane.

*Penzance, Sept.* 10.—The wind yesterday was SSE, fresh and hazy; at night it blew to NNW strong, with torrents of rain; it now blows a heavy gale at NNE, with squalls of rain.

*Plymouth, Sept.* 10.—It has blown a complete gale all day, commencing at SE, but has veered round to WNW, and still continues; all the shipping ride in safety.

*Portsmouth, Sept.* 11.—It blew a gale last night at S, and early this morning at W; 7 p. m. it is now SW, blowing hard with rain, and every appearance of the wind increasing.

Thunder Storm.—One of the severest storms which have occurred within our recollection, burst over Lambeth yesterday, about five o'clock in the afternoon. Several houses were damaged, and persons seriously injured. Amongst those which suffered most was that of Mr. Capper, on Lambeth Terrace, the roof of which was struck by the lightning. The electric fluid then made its way down the chimney into the kitchen, where the servants were assembled, and where it exploded, but providentially did them no personal injury beyond serious alarm.—*P. L. Sept.* 16.

The water in some of the wells, in the higher part of Brighton, has, within these last ten days, risen from four to five feet. The fowlers in our neighbourhood have commenced taking larks with nets, and a device with glass of simple construction; the birds are of the kind known as hill or flight larks; a small bridge, covered with a piece of glass, is, by means of a draw-string, made to revolve rapidly on a pivot, the rays of a rising sun falling on the glass; when such is the infatuation of the birds, that, however distant, they immediately fly towards it, and are either taken by a clap-net, or shot.—*Brighton Herald, P. L. Sept.* 29.

Since Monday last we have been blessed with dry sunny weather, though there has been some frost during the nights. All the farmers in our neighbourhood are busy reaping and gathering in their crops. Our streets are thronged in the mornings with carts to convey the shearers to the field; and we hope, notwithstanding the late boisterous and ungenial weather, a fair crop of oats and barley may be secured. Shearers are in great demand, at the average wages of a shilling per day. We have just seen a gentleman from the island of Skye, who states that the crops on the western coast, though backward, have suffered less than in this quarter. For five weeks there have not been two successive days without rain in Skye.—*Inverness Courier.*—*P. L. Sept.* 24.

| 1829. | Wind. | Barometer. | | By Clock. | | Temp. | | Med. | Evap | Rain, &c. |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Max. | Min. | Max. | Min. | Max. | Min. | | | |
| 10m. Oct. 1 | E | 30·30 | 30·10 | 30·12 | 29·90 | 61° | 50° | 55·5 | — | |
| 2 | E | 30·10 | 29·91 | 29·90 | 29·44 | 61 | 51 | 56· | — | 28 |
| 3 | SW | 30·03 | 29·91 | 29·63 | 29·42 | 61 | 48 | 54·5 | — | 46 |
| 4 | NW | 30·03 | 29·69 | 29·62 | 29·20 | 60 | 50 | 55· | — | 8 |
| 5 | NW | 29·77 | 29·66 | 29·38 | 29·20 | 59 | 44 | 51·5 | — | — |
| 6 | NW | 29·77 | 29·67 | 29·45 | 29·30 | 56 | 44 | 50· | — | |
| 7 | NW | 29·95 | 29·67 | 29·70 | 29·30 | 48 | 39 | 43·5 | — | 70 |
| 8 | NW | 30·30 | 29·95 | 30·00 | 29·70 | 46 | 32 | 39· | — | |
| 9 | NW | 30·48 | 30·30 | 30·12 | 30·00 | 48 | 28 | 38· | — | |
| 10 | SW | 30·48 | 30·35 | 30·11 | 29·92 | 58 | 41 | 49·5 | — | |
| 11 | W | 30·35 | 30·18 | 29·92 | 29·62 | 55 | 43 | 49· | — | |
| 12 | NW | 30·18 | 30·04 | 29·86 | 29·60 | 58 | 49 | 53·5 | — | |
| 13 | W | 30·04 | 29·49 | 29·60 | 29·05 | 53 | 51 | 52· | ·90 | 8 |
| 14 | NW | 30·28 | 29·49 | 30·06 | 29·30 | 58 | 35 | 46·5 | — | — |
| 15 | NW | 30·28 | 30·15 | 30·07 | 29·55 | 50 | 33 | 41·5 | — | |
| 16 | SW | 30·15 | 30·03 | 29·82 | 29·40 | 55 | 35 | 45· | — | |
| 17 | NW | 30·14 | 30·08 | 29·87 | 29·75 | 59 | 48 | 53·5 | — | |
| 18 | W | 30·14 | 30·09 | 29·81 | 29·73 | 63 | 48 | 55·5 | — | |
| 19 | SW | 30·09 | 29·90 | 29·73 | 29·48 | 64 | 54 | 59· | — | — |
| 20 | SW | 29·90 | 29·84 | 29·49 | 29·30 | 61 | 48 | 54·5 | — | |
| 21 | SW | 29·84 | 29·70 | 29·45 | 29·21 | 55 | 48 | 51·5 | — | 18 |
| 22 | W | 30·00 | 29·70 | 29·74 | 29·45 | 54 | 45 | 49·5 | — | |
| 23 | NW | 30·03 | 29·96 | 29·80 | 29·74 | 52 | 30 | 41· | — | |
| 24 | NE | 30·21 | 30·03 | 29·97 | 29·72 | 54 | 35 | 44·5 | — | |
| 25 | NW | 30·40 | 30·21 | 30·17 | 29·98 | 53 | 35 | 44· | ·78 | |
| 26 | NW | 30·41 | 30·38 | 30·21 | 30·10 | 51 | 35 | 43· | — | |
| New M. 27 | NW | 30·38 | 30·28 | 30·15 | 30·00 | 51 | 40 | 45·5 | — | |
| 28 | NW | 30·39 | 30·28 | 30·21 | 30·10 | 51 | 34 | 42·5 | — | |
| 29 | NW | 30·28 | 30·16 | 30·10 | 29·65 | 47 | 34 | 40·5 | — | — |
| 30 | NW | 30·16 | 29·98 | 29·80 | 29·57 | 55 | 43 | 49· | — | 1 |
| 31 | NW | 30·27 | 30·00 | 29·95 | 29·80 | 46 | 30 | 38· | 40 | |
| | | 30·48 | 29·49 | 30·21 | 29·20 | 64 | 30 | 48·15 | 2·08 | 1·97 |

Notes.—Tenth Mo. 1. Fine. 2, 3. Rainy. 4. Fine day: stormy night. 5, 6. Fine. 7. Rainy: sleet: a considerable fall of snow between one and three p. m. 8, 9. Fine. 10. Fine: hoar-frost. 11, 12. Fine. 13. Cloudy: high wind. 14. Cloudy. 15. Fine. 16. Cloudy. 17. Fine. 18. Fine. 19. Drizzly morning: fine p. m. 20. Cloudy. 21. Fine: rain at night. 22. Cloudy: 23, 24. Fine. 25. Foggy a. m.: fine p. m. 26. Ditto. 27. Ditto. 28, 29. Fine. 30. Foggy morning: fine p. m. 31. Fine.

## RESULTS.

Winds: NE, 1; E, 2; SW, 6; W, 4; NW, 18.

| | | |
|---|---|---|
| Barometer: | Greatest height | 30·48 in. |
| | Least | 29·49 in. |
| | Mean | 29·90 in. |
| Thermometer: | Greatest height | 64° |
| | Least | 30° |
| | Mean | 48·15° |
| Evaporation | | 2·08 in. |
| Rain | | 1·79 in. |

[Clock Barometer at *Ackworth:* max. 30·21 in. min. 29·20 in. mean, 29·730 in.]

At Newark, in Nottinghamshire, fruit is so abundant, that fine apricots are selling at eightpence a quartern, green gages at fivepence the quartern, and excellent apples at three pence per peck.

*Yarmouth, Oct.* 8.—It blew hard from NW to NNE all night: still continues, and rather increases, getting further round to NE.

*North Shields, Oct.* 8.—Last night and this day it has blown a heavy gale from NE, with sleet, hail, and snow. 4 p. m.—It is now more moderate, but the sea continues very heavy on bar.

*Antwerp, Oct.* 9.—Yesterday and last night it blew tremendously upon our coast, and I fear very bad news to-morrow.

*Plymouth, Oct.* 11.—Wind W.

*Aylesbury, Oct.* 13.—We had a heavy fall of snow on Wednesday [7th] for three hours, with the barometer at 29·28 in. thermometer 41°.

[My son John informs me the flakes of this snow were at least an inch in diameter, and that it whitened the ground in several places.—L. H.]

*Scarborough, Oct.* 14.—During last night the wind suddenly shifted from SW to NE, and blew a hard gale, which still continues, with a very heavy sea.

*Deal, Oct.* 15.—During last night it blew hard from the northward, which caused the tide to flow far beyond its usual boundaries.

*Shields, Oct.* 15.—During the whole of yesterday, and the fore part of last night, it blew a heavy gale from NE.

*Cuxhaven, Oct.* 16.—Owing to the wind having suddenly changed in the evening of the 14th inst. from a gale at SW, to a hurricane at NNE and NE, the following vessels were driven on shore near the harbour, &c.

*Brake, Oct.* 15.—It blew a tremendous gale last night; several vessels have drifted, and it is feared the ships before the Geest have suffered severely.

*Margate, Oct.* 15.—It has blown a tremendous gale from the NW the greater part of yesterday and last night. Six o'clock p. m.—The gale is much abated, it has now the appearance of moderate weather.

*Portsmouth, Oct.* 21.—It has blown a hard gale all day from SSW to W, and every appearance of a bad night.

On Tuesday, a quantity of snow fell in Badenoch and Strathspey, and it

drifted so much, that few could leave their houses. The damage done by the floods in these districts is much greater than at first supposed. Horses, in many places, can scarcely be led through the fields to carry the corn; they sink so deeply into the soil that they can with difficulty extricate themselves. In the valleys the reapers have cut the greater part of the corn; but in some of the higher districts the farmers have not yet commenced the application of the sickle to the oats.—*Aberdeen Chronicle.*

On the afternoon of yesterday week, the town of Sudbury was visited by a most tremendous thunder-storm. The same day, a heavy storm of thunder and lightning passed over Feversham; the electric fluid struck a large cherry-tree in an orchard at Preston, near the entrance of Feversham; the trunk of the tree, from the top to the root, was splintered into thousands of pieces, some of which were forced a considerable distance across the turnpike-road into a djoining fields; the foliage of the tree did not receive the least injury.—*Suffolk Chronicle.*

The weather this week has been of a kind very unusual in the early part of October. On Tuesday night there was much vivid lightning. During Wednesday night and Thursday morning there were violent storms of snow and hail, accompanied by tremendous gales of wind, and the showers of rain have been heavy and lasting. The thermometer has been so low as 36°.—*Norwich Mercury.*

The weather has been extremely cold and tempestuous in this neighbourhood during the past week, and some of the showers of hail were as severe as we ever remember in the depth of winter.—*Chester Chronicle.*

On Wednesday morning the snow fell in large flakes in this city, and continued falling nearly two hours.—*Oxford Herald.*

The weather since Tuesday night has been exceedingly cold. Yesterday there was snow on the ground in some parts of this neighbourhood, and ice was observed of a thickness which indicated, during the previous night, a degree of cold unusual for this period of the year.—*Sheffield Courant.*

Wednesday was truly a wintry day with us. In the morning we were visited with an easterly wind, with light flying showers: about noon the wind shifted to the north-east, and blew a biting blast; while rain, intermixed with snow and sleet, continued without intermission until evening.—*Brighton Herald.*

We have had sharp night-frosts during the week, and large flights of plover, and teams of wild ducks and geese have passed hence in a northerly direction.—*Berkshire Chronicle. P. L. Oct.* 12.

Extraordinary High Tide.—The strong north-east wind which has prevailed for the last two days, [14th and 15th,] had the effect of causing the waters of the Thames to rise several feet above the usual level at high water, and several streets in Wapping, Rotherhithe, and the lower parts of Westminster, were completely inundated. At the time of high-water, Wapping-street, near Execution Dock, presented the appearance of a canal, and boats were rowing about, the same as upon the river, and the inhabitants of the houses were unable to move out of doors till the turn of the tide.

On Wednesday se'nnight [15th,] the sea flowed considerably beyond its accustomed boundaries on the whole line of the Suffolk coast, and did much damage.

*Constantinople, Oct.* 26.—There have been a series of very severe gales from the N, lasting from the 18th to the 22d instant, and some losses have occurred in the Black Sea, but not any under the English flag. [See the table for the counter-current which obtained *here.*]

THE WEATHER.—On Wednesday at noon there was a cold rain; it was soon mingled with large snow: and in an hour afterwards there was a heavy and unmixed fall of snow, which gave the Regent's Park, Primrose Hill, &c. a very wintry appearance, as the snow lodged on the trees, grass, &c. so that not the slightest proof of vegetation was visible. This early evidence of winter excited no small amazement. In the places above mentioned the snow lay on the ground several inches deep. Many persons were seen walking amongst it, for the enjoyment of the novelty. On the 23d of October, about eight years ago, a heavy fall of snow took place, which lay on the ground nearly all day.—*P. L. Oct. 9,*

THE WET SUMMER OF 1829.—A correspondent, who has been an anxious observer of times and seasons for more than "three score summers," remarks, that the last summer has been the most rainy within his recollection. He therefore observes, that as certain years are remembered and designated by some severity of weather, such as the *great frost of* 1719, the *dry summer of* 1766, so should the present year be recorded as the *wet summer of* 1829.

| 1829. | Wind. | Barometer. | | By Clock. | | Temp. | | Med. | Evap | Rain, &c. |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Max. | Min. | Max. | Min. | Max. | Min. | | | |
| 11m.Nov.1 | NW | 30·32 | 30·27 | 29·95 | 29·89 | 46° | 30° | 38· | — | |
| 2 | NW | 30·32 | 30·30 | 29·96 | 29·82 | 49 | 37 | 43· | — | — |
| 3 | SW | 30·30 | 29·88 | 29·82 | 29·30 | 48 | 42 | 45· | — | |
| 4 | SW | 30·05 | 29·75 | 29·68 | 29·28 | 52 | 37 | 44·5 | — | 35 |
| 5 | NW | 30·05 | 30·02 | 29·72 | 29·48 | 50 | 38 | 44· | — | |
| 6 | W | 30·02 | 29·97 | 29·56 | 29·45 | 52 | 39 | 45·5 | — | — |
| 7 | NW | 30·11 | 29·98 | 29·71 | 29·57 | 50 | 30 | 40· | — | |
| 8 | NW | 30·17 | 30·11 | 29·84 | 29·68 | 48 | 32 | 40· | — | |
| 9 | NW | 30·17 | 30·08 | 29·85 | 29·43 | 48 | 37 | 42·5 | — | |
| 10 | SW | 30·08 | 30·00 | 29·73 | 29·41 | 52 | 36 | 44· | — | 50 |
| 11 | W | 30·06 | 29·94 | 29·74 | 29·51 | 50 | 37 | 43·5 | — | 24 |
| 12 | W | 30·09 | 29·94 | 29·99 | 29·50 | 50 | 35 | 42·5 | — | |
| 13 | SE | 30·22 | 30·09 | 30·01 | 29·87 | 52 | 37 | 44·5 | — | |
| 14 | SE | 30·22 | 29·99 | 29·87 | 29·58 | 52 | 38 | 45· | — | 2 |
| 15 | NW | 30·29 | 29·99 | 30·11 | 29·61 | 50 | 30 | 40· | — | |
| 16 | N | 30·46 | 30·29 | 30·20 | 30·11 | 43 | 24 | 33·5 | — | |
| 17 | NW | 30·48 | 30·29 | 30·20 | 30·14 | 41 | 28 | 34·5 | — | |
| 18 | NE | 30·50 | 30·48 | 30·20 | 30·16 | 43 | 24 | 33·5 | — | |
| 19 | NE | 30·51 | 30·46 | 30·16 | 30·05 | 37 | 23 | 30· | — | |
| 20 | NW | 30·46 | 30·43 | 30·06 | 29·90 | 34 | 21 | 27·5 | — | |
| 21 | NE | 30·43 | 29·86 | 29·90 | 29·36 | 36 | 26 | 31· | — | |
| 22 | SW | 29·86 | 29·82 | 29·57 | 29·36 | 42 | 34 | 38· | — | — |
| 23 | N | 29·84 | 29·82 | 29·67 | 29·57 | 38 | 29 | 33·5 | — | — |
| 24 | E | 29·82 | 29·77 | 29·70 | 29·55 | 36 | 29 | 32·5 | — | 48 |
| 25 | NE | 30·06 | 29·77 | 29·80 | 29·55 | 36 | 30 | 33· | — | — |
| New M. 26 | E | 30·06 | 29·96 | 29·80 | 29·60 | 39 | 33 | 36· | — | |
| 27 | NE | 29·96 | 29·92 | 29·60 | 29·52 | 40 | 36 | 38· | — | — |
| 28 | NW | 30·02 | 29·92 | 29·62 | 29·55 | 43 | 39 | 41· | — | 2 |
| 29 | SE | 30·02 | 30·00 | 29·64 | 29·60 | 44 | 38 | 41· | — | |
| 30 | SE | 30·00 | 29·97 | 29·67 | 29·63 | 41 | 36 | 38·5 | 74 | |
| | | 30·51 | 29·75 | 30·20 | 29·28 | 52 | 21 | 38·78 | 0·74 | 1·61 |

Notes.—Eleventh Mo. 1. Fine. 2. Foggy: fine. 3. Fine. 4. Rainy. 5. Fine. 6. Fine: a little rain at night. 7—9. Fine. 10. Fine day: rainy night. 11. A dense fog in the morning: rainy night. 12—15. Cloudy. 16. Fine. 17. Hoar-frost: fine day. 18. Fine. 19. Dense fog all day: very dangerous passing at night. 20. Hoar-frost: foggy day; and so thick at night as to prevent travelling. 21. Hoar-frost: cloudy. 22. Some rain in the morning: overcast. 23. Cloudy. 24. Hoar-frost: cloudy: a heavy fall of

snow from ten p. m. through the night: four inches and upwards on the ground. 25. A little more snow: thaw. 26. Thaw going on: cloudy: very cold. 27. Very thick fog: drizzly. 28. Drizzly. 29, 30. Overcast.

## RESULTS.

Winds: N, 2; NE, 5; E, 2; SE, 4; SW, 4; W, 3; NW, 10.

| | | |
|---|---|---|
| Barometer: | Greatest height | 30·51 in. |
| | Least | 29·75 in. |
| | Mean | 30·10 in. |
| Thermometer: | Greatest height | 52° |
| | Least | 21° |
| | Mean | 38·78° |
| Evaporation | | 0·74 in. |
| Rain | | ·161 in. |

[Clock Barometer at *Ackworth*, max. 30·20 in.; min. 29·28 in.; mean, 29·739 in.]

*St. Petersburgh, Nov.* 4.—The Cronstadt post is not arrived. The frost continues. It was last night 7 to 8°, [ab. 15° Fahrenheit,] and the ice is beginning to make its appearance in the river; the direct communication with Cronstadt has been intercepted since the 1st.

*Deal, Nov.* 20.—A thick fog has prevailed all day, with a light breeze at NW.

*Gravesend, Nov.* 20.—In consequence of a thick fog all this day, but one vessel arrived.

*Deal, Nov.* 24.—It has blown a gale at E throughout the day. Half-past six: still blowing a gale—and a dreadful sea.

*Harwich, Nov.* 24.—It blew tremendously heavy from the E and ENE last night, and has continued during the day; many ships have put in for shelter.

*Bridlington, Nov.* 24.—The Commerce, Nesken, in coming for this harbour yesterday, in a gale from ENE, struck the pier and ran on shore, but expected to be got off, should the weather moderate. A brig, with her masts cut away, is riding under Atwick, near Hornsea. A sloop has just come on shore, apparently bound to the northward. Six p. m. The gale increases, and the sea is very high.

Owing to the heavy fall of snow on Tuesday night, [24th,] both in the metropolis and in the country, there was a delay in the arrival of some of the mails yesterday morning. The cold was so severe during the night, that several of the coachmen and guards were quite benumbed. The snow was falling very heavily at Dover when the mail left, and the passengers by the Calais steam-boat stated that the cold had set in very severely there, and in all the north of France.

Our advices from the northern parts of Europe speak of the early setting in of winter. A correspondent at Elsinore writes on the 17th instant:—"The winter has set in rather unexpectedly with snow and frost, 3 to 4°, [25° Fahrenheit.]" Another at Calmar, under date of the 9th inst. says:—"We have every prospect of a severe winter in Sweden."—*P. L. Nov.* 27.

*Amsterdam, Dec.* 1.—During the night of Friday, the 27th instant, a thaw commenced, and the ice has so far disappeared, that the inland navigation has been resumed.

| 1829. | Wind. | Barometer. | | By Clock. | | Temp. | | Med. | Evap | Rain, &c. |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Max. | Min. | Max. | Min. | Max. | Min. | | | |
| 12m.Dec.1 | E | 29·97 | 29·92 | 29·67 | 29·55 | 45° | 38° | 41·5 | — | |
| 2 | E | 29·96 | 29·92 | 29·60 | 29·54 | 43 | 39 | 41· | — | |
| 3 | E | 29·96 | 29·94 | 29·60 | 29·55 | 44 | 40 | 42· | — | |
| 4 | SE | 30·33 | 29·94 | 30·04 | 29·60 | 45 | 40 | 42·5 | — | |
| 5 | SE | 30·54 | 30·33 | 30·20 | 30·04 | 46 | 40 | 43· | — | |
| 6 | SE | 30·54 | 30·50 | 30·22 | 30·18 | 40 | 21 | 30·5 | — | |
| 7 | NW | 30·50 | 30·43 | 30·18 | 30·05 | 33 | 28 | 30·5 | — | |
| 8 | W | 30·48 | 30·43 | 30·20 | 30·13 | 35 | 31 | 33· | — | |
| 9 | E | 30·48 | 30·30 | 30·15 | 29·92 | 35 | 32 | 33·5 | — | |
| 10 | N | 30·32 | 30·30 | 29·92 | 29·80 | 35 | 25 | 30· | — | |
| 11 | SE | 30·32 | 30·32 | 29·80 | 29·70 | 37 | 33 | 35· | — | |
| 12 | SW | 30·35 | 30·32 | 29·84 | 29·71 | 43 | 35 | 39· | — | |
| 13 | SW | 30·43 | 30·35 | 30·05 | 29·81 | 47 | 30 | 38·5 | — | |
| 14 | NE | 30·47 | 30·43 | 30·17 | 30·05 | 37 | 27 | 32· | — | |
| 15 | SW | 30·47 | 30·37 | 30·18 | 30·05 | 40 | 30 | 35· | — | |
| 16 | NE | 30·37 | 30·14 | 30·05 | 29·65 | 41 | 32 | 36·5 | — | — |
| 17 | NW | 30·14 | 29·85 | 29·65 | 29·45 | 36 | 28 | 32· | — | |
| 18 | NE | 30·04 | 29·85 | 29·73 | 29·55 | 38 | 30 | 34· | — | |
| 19 | NE | 30·05 | 30·04 | 29·71 | 29·68 | 37 | 29 | 33· | — | — |
| 20 | NE | 30·15 | 30·05 | 29·70 | 29·58 | 32 | 22 | 27· | — | — |
| 21 | Var. | 30·15 | 29·95 | 29·58 | 29·50 | 33 | 23 | 28· | — | — |
| 22 | NE | 29·97 | 29·95 | 29·75 | 29·55 | 35 | 28 | 31·5 | — | — |
| 23 | NE | 29·97 | 29·91 | 29·78 | 29·65 | 30 | 24 | 27· | — | — |
| 24 | NE | 30·26 | 29·96 | 30·05 | 29·78 | 30 | 26 | 28· | — | — |
| 25 | NE | 30·53 | 30·26 | 30·23 | 30·05 | 31 | 26 | 28·5 | — | — |
| New M. 26 | NE | 30·60 | 30·53 | 30·24 | 30·20 | 32 | 22 | 27· | — | |
| 27 | NE | 30·60 | 30·55 | 30·24 | 30·10 | 31 | 16 | 23·5 | — | |
| 28 | NW | 30·55 | 30·38 | 30·20 | 30·10 | 30 | 20 | 25· | — | — |
| 29 | NE | 30·58 | 30·55 | 30·28 | 30·19 | 28 | 24 | 26· | — | — |
| 30 | NE | 30·64 | 30·58 | 30·38 | 30·28 | 30 | 28 | 29· | — | |
| 31 | NE | 30·73 | 30·64 | 30·41 | 30·38 | 32 | 28 | 30· | 42 | 24 |
| | | 30·73 | 29·85 | 30·41 | 29·45 | 47 | 16 | 32·67 | 0·42 | 0·24 |

Notes.—Twelfth Mo. 1. Cloudy. 2. Overcast. 3. Overcast. 4. Overcast. 5, 6. Cloudy. 7. Gloomy. 8—13. Fine. 14. Foggy morning: fine. 15. Very foggy day. 16. Fine morning: drizzly p. m. 17. Cloudy. 18. Fine. 19. Cloudy: a little snow in the morning. 20. Ground covered with snow. 21. Very snowy day. 22. Snowy: a slight thaw about noon. 23. Some snow. 24, 25. Snowy. 26. Bleak: fine. 27. Fine. 28. Snowy: bleak. 29. Snowy evening. 30. Cloudy. 31. Fine.

## RESULTS.

Winds: N, 1; NE, 14; E, 4; SE, 4; SW, 3; W, 1; NW, 3; Var. 1.

| | | |
|---|---|---|
| Barometer: | Greatest height | 30·73 in. |
| | Least | 29·85 in. |
| | Mean | 30·28 in. |
| Thermometer: | Greatest height | 47° |
| | Least | 16° |
| | Mean | 32·67° |
| Evaporation [viz. to the 31st,] | | 0·42 in. |
| Rain-guage (being snow melted, and probably in part lost) | | 0·24 in. |

[Clock Barometer at *Ackworth*, max. 30·41 in.; min. 29·45 in.; mean 29·920. in.]

*North Shields, Dec.* 3.—Last night it blew a strong gale from SE.

*Margate, Dec.* 23.—It has blown hard during last night and this morning, at about ENE.

The Fog.—Yesterday morning the metropolis and its environs were enveloped with a dense fog, and between eleven and twelve o'clock it was hardly possible to walk the streets without danger. The shops were lighted as at night, and the horses of stages coming into town were led. About five o'clock in the evening the fog again assumed a very dense appearance, and increased in thickness during the evening, so that from nine o'clock until midnight it was with extreme danger that carriages traversed the street. *Flambeaux* and *link-boys* were equally in requisition: the most brilliant gas-light could scarcely penetrate the gloom. Many ludicrous mistakes occurred, but we rejoice to state that we have not heard of any serious accident.—*Dec.* 15.

### *On the freezing of Trees.*

*Neuffer* (in a Tubingen thesis noticed by *Jameson*) affirms that trees are at a temperature in winter much below freezing, and that they do not congeal without being killed. This agrees with the fact of their rending and splitting in the forests by the action of the cold alone. For if we consider the viscid nature of the sap, and the obstruction offered to the movement of the particles by the proximity of the strongly-attracting ligneous fibre, we need not wonder that the whole mass of fluids in a tree should be capable of cooling to a great degree without congealing—an effect which requires much internal motion and arrangement. Experiments are here cited which make the temperature borne by the tree as low as 1·5° Fahr.: the day after, the temperature rose to 34·5°, but the tree continued on the second day below 32°. The wood of trees [felled?] froze in concentric circles to a depth of from eight to seventeen lines; the ice on ponds at the time being above eight inches thick. The more open the grain, the more easily did the cold penetrate. My gardener however tells me, (and I think I once witnessed the fact,) that in hard frost the wood of *live fir-trees* resists the axe as firmly as if the whole mass were ice and ligneous fibre. Does the sap freeze on the instant, and from the concussion?

| 1830. | Wind. | Barometer. | | By Clock. | | Temp. | | Med. | Evap | Rain, &c. |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Max. | Min. | Max. | Min. | Max. | Min. | | | |
| 1mo. Jan. 1 | NE | 30·64 | 30·62 | 30·42 | 30·34 | 36° | 29° | 32·5 | — | |
| 2 | N | 30·62 | 30·57 | 30·34 | 30·24 | 36 | 30 | 33· | — | |
| 3 | N | 30·57 | 30·43 | 30·24 | 30·10 | 37 | 32 | 34·5 | — | |
| 4 | NE | 30·43 | 30·40 | 30·10 | 30·02 | 37 | 33 | 35· | — | — |
| 5 | W | 30·47 | 30·40 | 30·10 | 29·95 | 41 | 24 | 32·5 | — | |
| 6 | NW | 30·40 | 30·00 | 29·95 | 29·52 | 40 | 29 | 34·5 | — | 37 |
| 7 | NW | 30·19 | 30·00 | 29·93 | 29·60 | 35 | 30 | 32·5 | — | 5 |
| 8 | N | 30·30 | 30·19 | 30·02 | 29·82 | 43 | 30 | 36·5 | — | — |
| 9 | NW | 30·19 | 29·98 | 29·82 | 29·63 | 39 | 29 | 34· | — | — |
| 10 | NW | 29·98 | 29·92 | 29·65 | 29·50 | 36 | 30 | 33· | — | — |
| 11 | NW | 29·99 | 29·98 | 29·80 | 29·50 | 36 | 29 | 32·5 | — | — |
| 12 | N | 30·06 | 29·99 | 29·90 | 29·80 | 33 | 27 | 30· | — | — |
| 13 | N | 30·06 | 30·02 | 29·85 | 29·66 | 32 | 22 | 27· | — | — |
| 14 | E | 30·08 | 30·06 | 29·84 | 29·80 | 31 | 27 | 29· | — | — |
| 15 | NW | 30·09 | 30·01 | 29·84 | 29·76 | 37 | 27 | 32· | — | — |
| 16 | NE | 30·10 | 30·01 | 29·83 | 29·68 | 31 | 17 | 24· | — | |
| 17 | N | 30·23 | 30·10 | 29·80 | 29·67 | 30 | 11 | 20·5 | — | |
| 18 | NW | 30·23 | 29·98 | 29·75 | 29·45 | 21 | 13 | 17· | — | |
| 19 | NW | 29·98 | 28·93 | 29·45 | 28·86 | 34 | 11 | 22·5 | — | — |
| 20 | Var. | 29·60 | 28·93 | 28·90 | 28·70 | 37 | 28 | 32·5 | — | — |
| 21 | Var. | 29·82 | 29·60 | 29·46 | 28·90 | 38 | 30 | 34· | — | — |
| 22 | SE | 30·04 | 29·82 | 29·80 | 29·46 | 36 | 30 | 33· | — | — |
| 23 | NE | 30·09 | 30·01 | 29·79 | 29·69 | 36 | 32 | 34· | — | — |
| New M. 24 | E | 30·41 | 30·09 | 30·13 | 29·72 | 41 | 29 | 35· | — | |
| 25 | NW | 30·44 | 30·38 | 30·18 | 30·10 | 37 | 31 | 34· | — | |
| 26 | SE | 30·45 | 30·02 | 30·10 | 29·56 | 36 | 33 | 34·5 | — | — |
| 27 | SE | 30·23 | 30·01 | 29·96 | 29·56 | 37 | 33 | 35· | — | — |
| 28 | N | 30·37 | 30·23 | 30·05 | 29·96 | 36 | 33 | 34·5 | — | — |
| 29 | NE | 30·37 | 30·10 | 30·04 | 29·80 | 37 | 26 | 31·5 | — | — |
| 30 | W | 30·31 | 30·06 | 30·03 | 29·81 | 38 | 20 | 29· | — | — |
| 31 | E | 30·31 | 30·17 | 30·02 | 29·84 | 26 | 15 | 20·5 | 31 | 1·00 |
| | | 30·64 | 28·93 | 30·42 | 28·70 | 43 | 11 | 30·97 | ·31 | 1·42 |

NOTES.—First Mo. 1—3. Cloudy. 4. Some small rain. 5, 6. Cloudy. 7. Showery. 8. Snowy morning. 9. Rainy. 10. Fine. 11. Very snowy night. 12. Snowy: the ground covered to the depth of three inches a. m. 13. Snowy morning—and all day at intervals. 14. Snow. 15. Snowy day: a gentle thaw p. m.: frost again at night. 16. The paths very slippery with ice. 17, 18. Fine. 19. Hoar-frost: the trees very beautiful with rime through the day: a very heavy storm of snow during the night, which lay to the depth of five inches, and was much drifted. 20. a. m. a very gentle

thaw commenced this morning, and continued through the day, with rain: in the evening it began to freeze again. 21. A gentle thaw till evening: then frost again. 22. Rain, sleet, snow, a. m.: the roads and streets in a dreadful state: frost again at night. 23. Snowy morning: a very gradual thaw. 24. Idem: frost again at night. 25. Fine. 26. Snowy. 27. Rainy: some sleet. 28. Drizzly: some snow in the night. 29. Fine: began to freeze at night: a considerable snow followed. 30. The ground covered with two inches depth of snow a. m.: rainy day: frost again at night. 31. Snowy day.

## RESULTS.

Winds: N, 7; NE, 5; E, 3; SE, 3; W, 2; NW, 9; Var. 2.

| | | |
|---|---|---|
| Barometer: | Greatest height | 30·64 in. |
| | Least | 28·93 in. |
| | Mean | 30·133 in. |
| Thermometer: | Greatest height | 43° |
| | Least | 11° |
| | Mean | 30·97° |
| Evaporation | | 0·31 in. |
| Rain | | 1·42 in. |

[Clock Barometer at *Ackworth*, max. 30·42 in.; min. 28·70 in.; mean 29·790 in.]

A letter from Madrid states that the cold in that capital is more severe than it has been for several years past.

*Paris, Jan.* 16.—The cold has returned upon us with redoubled rigour. Yesterday was one of the coldest days within my recollection, the thermometer (Fahrenheit) marking 22° below the freezing point. It increased in severity last night. During the whole of this day we have had an incessant and heavy fall of snow. None of the mails had arrived in Paris at noon. Two men were frozen to death in different parts of Paris on Thursday night. From all the departments, from Denmark, Switzerland, Austria, Prussia, Russia, and Poland, similar accounts reach us. In Paris the cold has, in more than one instance, produced brain fever. The want of fuel is severely felt by the poor: two warming-houses have been opened, which are of course crowded. Happily bread continues at a moderate price: four sous the pound of eighteen ounces. The cold has been even more severe in the Cantal than in the Puy de Dôme. At Aurillac, the thermometer, Reaumur, exposed to the NE, marked 20° [*minus*, or minus 13° Fahrenheit,] on the 27th ult. at seven o'clock in the morning; at noon 15°; and nine in the evening 18°. On the 23d, 24th and 25th, so great a quantity of snow fell, that a circular vase twenty-two inches and a half deep, placed in the open air, was completely filled. Our correspondence from the departments mentions several instances of individuals having been frozen to death during the late intense cold. The Spanish journals from different provinces contain also afflicting details of the sufferings and loss of life from the inclement season in the Peninsula. Some of the northern departments of France have been the scenes of disaster in consequence of the wolves leaving their dens

and prowling in the villages in pursuit of food; whilst in the south the eagles have quitted their native Pyrenees to seek shelter against the inclemency of the season. Several wild swans have been killed at St. Medard and Perigueux. At Coly, a bird of passage, of a large species of heron, having a neck more than three feet and a half in length, and weighing upwards of fifteen pounds, was wounded and taken a few days ago. The visit of these strangers is a certain indication of the general severity of the winter in Europe.—*Galignani's Messenger.*

The extra expense occasioned to the city of Paris for breaking and carrying away the ice from the streets and public places was 150,000 fr. in January and February, 1826; in January, February, and March, 1827, it was 163,000 fr.; in January, February, and March, 1829, the expence was 196,000 fr. The present severe weather began on the 6th of December, and the cold continuing to augment, and a great quantity of snow having fallen, no less a sum than 146,000 fr. was expended to the end of December alone, for labour and transport in clearing away the ice.—*Paris Paper.*

The cold weather has extended even to Italy, the thermometer at Florence having fallen below the freezing point on the 21st of December. The Arno is filled with floating ice, and at Bologna the river is frozen over.

*Dover, Jan.* 19.—The weather appears to have been more severe in France than in this country, if we may judge from the fact of the French steam-packet being frozen up in Calais harbour; so that the mail of yesterday was forwarded by a boat, No. 26, which did not reach this harbour till seven o'clock this morning.

We continue to be favoured with peculiarly mild winter weather, while our brethren of the south are complaining of its severity, and the people of the continent drawing upon the memory of that wisest of sages, "the oldest inhabitant," to fix a period when its parallel could be found for unmitigated rigour. On Tuesday we had a partial fall of snow, but a thaw followed, and the air is again mild, with the prospect of continuing so.—*Greenock Advertiser. Record, Jan.* 28.

It is singular, that while the snow has been lying on the low lands about eight or nine inches deep for the last fortnight, the south side of the Grampians is hardly covered. The consequence has been that the usual practice has been reversed, and the sheep have been sent from the low grounds to the hills to graze. In Glenquech the snow that has fallen this year barely covered the ground.—*Perth Courier.*

Sheep Drowned.—Last week a flock of sheep, thirty-four in number, belonging to Mr. J. Hebden, of Appleton-le-street, having from some cause taken their stand upon the ice, which covered a deep pond in the field where they were grazing, the ice gave way, and the whole of them were drowned.—*Doncaster Gazette. Record, Jan.* 18.

*Dover, Jan.* 15.—In consequence of the prevalence of the north and north-east winds, this harbour is almost filled with vessels of various descriptions windbound, and you might easily fancy a well-planted wood to exist in the basin; it is calculated that there are upwards of two hundred sail.

A few days ago, in the neighbourhood of Antrim, a flight of crows in their passage across Lough-Neagh, mistook, during the continuance of a dense mist, the surface of the lake for solid land, and descended upon the water. In the course of the day an immense number of their dead bodies were driven on shore by the wind. An individual in the service of General O'Neil, counted twelve hundred and fifty of these drowned birds, but a multitude of them, probably five hundred, remained uncounted.—*Londonderry Journal.* [Exhausted through want of nourishment, and spent in flying? The like is seen to happen to swallows.]

THE WEATHER.—In most parts of Kent, particularly below Maidstone, the snow has fallen in such abundance that the roads are almost impassable, and in some parts it is nearly ten feet deep.

The snow in several places along the Dover-road exceeds five feet in depth.—*Record, Jan.* 18.

The thaw having set in a few days ago at Paris and Rouen, precautions have been taken to prevent, as much as possible, the injury to be apprehended to the bridges, as well as to the mills and other works situated on the banks of the river. The bridge of boats at Rouen has been withdrawn, and at Paris experiments have been made on the practicability of rending, and subsequently loosening, the frozen surface of the river by means of gunpowder. The object of these was to open a free course to the masses of ice coming down the river, as well as to the waters likely to flow into it from all parts, on the thaw becoming general. Forty years ago, after the severe winter of 1789, the inhabitants of Mulhausen, on the Rhine, apprehending serious injury from a similar cause, adopted the suggestion of an ingenious townsman, to make holes in the frozen surface of the river, and put under the ice a number of small barrels of gunpowder, the explosion of which was found to rend the ice to a great distance, and thus to open a free course to the stream. Subsequent experiments of the kind have been made with success.—*Record, Feb.* 1.

### *Cold at Geneva.*

"We mean to remain where we are until spring: indeed, we could not move, if inclined. It is impossible to describe the cold: neither fire nor flue will keep you warm. Ladies and gentlemen have had their traineaux out, for six weeks past, upon the high roads: all other roads are stopped with snow, and no person remembers so severe a commencement of winter. Mrs. ——, having heard of a wolf somewhere about, is afraid to go out by herself." From a letter addressed to a near relation of mine, dated 5th January, 1830.—With which the reader may compare the following, extracted from a letter written to my father by an elder brother: the date, 29th December 1788. "I expect the softer breezes of summer to compensate for the rigour of this inclement season. The *Bise*, a north wind rather unusual at this season, has raged for several days with incredible fury: we have been kept awake whole nights by the noise. I never remember such an extreme cold. My ink freezes while I write—our breath freezes on the sheets—the wine freezes in the bottles. Yet we have good chambers for ourselves, and good caves for the wine; but the cold penetrates everywhere."

A wolf at this time frequented the village of *Versoix*, (where my brother was,) *to eat a kind of fat earth* which lay in the neighbourhood. The corn-mills on the Rhone being stopped by the frost, the people used their coffee-mills to grind corn, so scarce was flour. The cold was —6 Fahr. at the end of the year.—L. H.

| 1830. | Wind. | Barometer. | | By Clock. | | Temp. | | Med. | Evap | Rain, &c. |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Max. | Min. | Max. | Min. | Max. | Min. | | | |
| 2 mo. Feb. 1 | NE | 30·17 | 30·08 | 29·85 | 29·80 | 29° | 18° | 23·5 | — | — |
| 2 | NE | 30·11 | 30·08 | 29·90 | 29·81 | 23 | 17 | 20· | — | — |
| 3 | NE | 30·11 | 30·10 | 29·98 | 29·80 | 26 | 18 | 22· | — | — |
| 4 | NE | 30·10 | 29·92 | 29·80 | 29·71 | 23 | 14 | 18·5 | — | |
| 5 | NE | 29·98 | 29·88 | 29·71 | 29·50 | 28 | 8 | 18· | — | — |
| 6 | NE | 29·88 | 29·74 | 29·50 | 29·16 | 40 | 12 | 27· | — | — |
| 7 | SW | 29·74 | 29·67 | 29·16 | 28·94 | 45 | 35 | 40· | — | — |
| 8 | W | 29·67 | 29·56 | 29·40 | 29·10 | 48 | 43 | 45·5 | — | 70 |
| 9 | SW | 29·95 | 29·56 | 29·75 | 29·25 | 46 | 31 | 38·5 | — | |
| 10 | NW | 30·32 | 29·95 | 29·99 | 29·75 | 47 | 28 | 37·5 | — | — |
| 11 | SW | 30·32 | 30·30 | 29·98 | 29·87 | 44 | 30 | 37· | — | — |
| 12 | S | 30·32 | 30·30 | 29·98 | 29·85 | 43 | 27 | 35· | — | |
| 13 | E | 30·30 | 30·29 | 30·00 | 29·92 | 40 | 28 | 34· | — | |
| 14 | W | 30·49 | 30·29 | 30·27 | 29·91 | 36 | 30 | 33· | — | |
| 15 | E | 30·49 | 30·46 | 30·27 | 30·20 | 39 | 30 | 34·5 | — | |
| 16 | NW | 30·46 | 30·17 | 30·20 | 29·70 | 38 | 28 | 33· | — | |
| 17 | NW | 30·17 | 29·91 | 29·70 | 29·53 | 34 | 28 | 31· | — | |
| 18 | NW | 29·98 | 29·91 | 29·57 | 29·54 | 47 | 28 | 37·5 | — | — |
| 19 | NW | 30·04 | 29·98 | 29·60 | 29·55 | 45 | 23 | 34· | — | — |
| 20 | NW | 30·04 | 29·87 | 29·55 | 29·26 | 43 | 28 | 35·5 | — | |
| 21 | SW | 29·95 | 29·87 | 29·45 | 29·23 | 45 | 27 | 36· | — | — |
| 22 | NW | 29·95 | 29·86 | 29·50 | 29·30 | 48 | 31 | 39·5 | — | 57 |
| New M. 23 | W | 30·07 | 29·86 | 29·71 | 29·50 | 52 | 38 | 45· | — | — |
| 24 | W | 30·23 | 30·07 | 29·89 | 29·70 | 54 | 46 | 50· | — | 8 |
| 25 | W | 30·23 | 30·12 | 29·88 | 29·70 | 57 | 37 | 47· | — | |
| 26 | W | 30·12 | 30·10 | 29·75 | 29·59 | 48 | 42 | 45· | — | 30 |
| 27 | SW | 30·15 | 30·10 | 29·85 | 29·45 | 55 | 45 | 50· | — | |
| 28 | NW | 30·40 | 30·15 | 30·15 | 29·85 | 54 | 42 | 48· | ·97 | |
| | | 30·49 | 29·56 | 30·27 | 28·94 | 57 | 8 | 35·55 | ·97 | 1·65 |

NOTES.—Second Mo. 1. Snow. 2. A heavy snow a. m.: continued snowing all day. 3. Fine: a little snow. 4. Fine. 5, 6. Snowy. 7. A considerable fall of snow during the last night: thaw commenced about ten a. m. and continued through the day. 8. Fine day: rainy night. 9. Very rainy morning: an extraordinary quantity of water came down the river about midnight. 10. The marshes northward are this morning altogether under water. 11. White-frost: fine: the water ran off from the country in about thirty hours,

doing much damage. 12. Fine. 13, 14. Overcast. 15, 16. Misty. 17. Very damp mist: overcast. 18. A heavy shower of snow at nine a. m.: fine day. 19. Some snow early this morning: day fine. 20. Fine. 21. Rainy. 22. Rainy night. 23. Drizzly. 24, 25. Fine. 26. Fine day: rainy night. 27, 28. Fine.

## RESULTS.

Winds: NE, 6; E, 2; S, 1; SW, 5; W, 6; NW 8.

| | | |
|---|---|---|
| Barometer: | Greatest height | 30·49 in. |
| | Least | 29·56 in. |
| | Mean | 30·069 in. |
| Thermometer: | Greatest height | 57° |
| | Least | 8° |
| | Mean | 35·55° |
| Evaporation | | 0·97 in. |
| Rain | | 1·65 in. |

[Clock Barometer at *Ackworth:* max. 30·27 in.; min. 28·94 in.; mean, 29·693 in.]

The thermometer on the banks of the Arve has fallen as low as 19°. [If this be *minus* 19° Reaum. it is about 12° below *Zero*, Fahrenheit.] The lake of Morat is entirely frozen over, and that of Neufchatel is partly covered with ice. A young sportsman in that country killed, a few days ago, two eagles, that measured eleven feet across from the points of their wings.—*Paris Paper. Record, Feb.* 1.

On the 17th, in the morning, having lodged at Royston, on my way from Yorkshire, as we passed the chalk-hills on this side the town, we found a freezing mist on the whole country, borne by a gentle breeze from the south, which accumulated in *rime* upon the trees, until the branches swayed and bent as if they would break under the weight. On the ground, and on the tops of banks by the road side, every straw and bent gathered the spiculæ on the windward side, until (like the twigs above) they were changed in appearance into *thick straps*, of a snow-white substance, cut accurately square at the end, and full an inch in breadth.—L. H.

| 1830. | Wind. | Barometer. | | By Clock. | | Temp. | | Med. | Evap | Rain, &c. |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Max. | Min. | Max. | Min. | Max. | Min. | | | |
| 3mo. Mar. 1 | NW | 30·45 | 30·40 | 30·20 | 30·15 | 55° | 45° | 50· | — | |
| 2 | W | 30·45 | 30·45 | 30·24 | 30·20 | 52 | 44 | 48· | — | |
| 3 | SE | 30·45 | 30·35 | 30·23 | 30·00 | 56 | 30 | 43· | — | |
| 4 | SE | 30·35 | 30·12 | 30·00 | 29·86 | 42 | 28 | 35· | — | |
| 5 | SE | 30·17 | 30·12 | 29·93 | 29·86 | 42 | 30 | 36· | — | |
| 6 | E | 30·17 | 30·10 | 29·95 | 29·90 | 52 | 26 | 39· | — | |
| 7 | E | 30·20 | 30·17 | 29·95 | 29·85 | 49 | 29 | 39· | — | |
| 8 | SE | 30·17 | 29·86 | 29·85 | 29·43 | 52 | 36 | 44· | — | |
| 9 | SE | 29·86 | 29·80 | 29·50 | 29·40 | 48 | 43 | 45·5 | — | — |
| 10 | NW | 29·84 | 29·80 | 29·50 | 29·31 | 52 | 44 | 48· | — | ·16 |
| 11 | NW | 30·18 | 29·84 | 29·70 | 29·43 | 50 | 42 | 46· | — | |
| 12 | NW | 30·27 | 30 16 | 30·00 | 29·50 | 52 | 39 | 45·5 | — | |
| 13 | NW | 30·32 | 30·25 | 30·06 | 29·75 | 55 | 33 | 44· | — | |
| 14 | SW | 30·25 | 29·65 | 29·75 | 29·02 | 55 | 38 | 46·5 | — | |
| 15 | SW | 29·82 | 29·65 | 29·35 | 28·95 | 51 | 34 | 42·5 | — | — |
| 16 | NW | 29·95 | 29·82 | 29·55 | 29·35 | 58 | 41 | 49·5 | — | — |
| 17 | NW | 30·25 | 29·95 | 29·84 | 29·46 | 56 | 44 | 50· | — | |
| 18 | NW | 30·32 | 30·25 | 29·95 | 29·84 | 55 | 43 | 49· | ·96 | |
| 19 | NW | 30·25 | 30·21 | 29·94 | 29·84 | 54 | 42 | 48· | — | ·22 |
| 20 | NW | 30·42 | 30·21 | 30·16 | 29·84 | 55 | 38 | 46·5 | — | |
| 21 | NW | 30·42 | 30·25 | 30·15 | 29·85 | 58 | 41 | 49·5 | — | |
| 22 | SW | 30·25 | 30·15 | 29·84 | 29·56 | 48 | 35 | 41·5 | — | — |
| 23 | NW | 30·22 | 30·15 | 29·90 | 29·69 | 53 | 43 | 48· | — | — |
| New M. 24 | NW | 30·41 | 30·22 | 30·10 | 29·90 | 44 | 38 | 41· | — | |
| 25 | NW | 30·51 | 30·41 | 30·35 | 30·10 | 64 | 40 | 52· | — | |
| 26 | W | 30·56 | 30·51 | 30·40 | 30·35 | 72 | 32 | 52· | — | |
| 27 | SW | 30·56 | 30·43 | 30·39 | 30·29 | 69 | 30 | 49·5 | — | |
| 28 | E | 30·44 | 30·26 | 30·28 | 30·00 | 68 | 34 | 51· | — | |
| 29 | SE | 30·26 | 30·10 | 30·00 | 29·90 | 70 | 33 | 51·5 | — | |
| 30 | SE | 30·10 | 29·87 | 29·92 | 29·63 | 68 | 34 | 51· | ·96 | |
| 31 | SW | 29·87 | 29·86 | 29·67 | 29·62 | 63 | 32 | 47·5 | 5 | 20 |
| | | 30·56 | 29·65 | 30·40 | 28·95 | 72 | 26 | 46·11 | 1·97 | ·58 |

Notes.—Third Mo. 1. Gloomy. 2, 3. Overcast. 4, 5. Hoar-frost: fine. 6—8. Fine. 9. Cloudy. 10, 11. Fine. 12, 13. Fair, with a boisterous wind. 14. Fine. 15. Showery. 16. Several showers of hail during the day. 17—30. Fine. 31. Foggy morning: day fine: showery evening.

## RESULTS.

Winds: E, 3; SE, 7; SW, 5; W, 2; NW, 14.

| | | |
|---|---|---|
| Barometer: | Greatest height | 30·56 in. |
| | Least | 29·65 in. |
| | Mean | 30·179 in. |
| Thermometer: | Greatest height | 72° |
| | Least | 26° |
| | Mean | 46·11° |
| Evaporation | | 1·97 in. |
| Rain | | 0·58 in. |

[Clock Barometer at *Ackworth:* max. 30·40 in.; min. 28·95 in.; mean 29·846 in.]

### *Mildness of the Season on the Alps.*

From the *Bibliotheque Universelle.* The month of February [at the meteorological observatory of the convent of Great St. Bernard] was fine; and though very cold at the beginning, there fell so little snow as to make it a remarkable time.

*March* was mild and pleasant. Several days of the month might even be called *warm;* and for a century, probably, there had not been seen so little snow on Mount St. Bernard. [The convent is 1278 toises above the sea.] On the 29th, the thickness of the ice on the lake was examined; a hole being dug several feet in diameter, which immediately filled with water from below. The ice was four feet thick, and at the depth of eight feet, the temperature was 33° Fahr. The mean temperature of the month was about 26°, and at Geneva about 44° Fahr. [Compare with these facts the state of the Grampians, as contrasted with the lowlands of Scotland, in the Extracts, p. 344.]

| 1830. | Wind. | Barometer. | | By Clock. | | Temp. | | Med. | Evap | Rain, &c. |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Max. | Min. | Max. | Min. | Max. | Min. | | | |
| 4mo.Apr.1 | E | 29·86 | 29·70 | 29·68 | 29·58 | 44° | 34° | 39· | — | 50 |
| 2 | E | 29·70 | 29·40 | 29·57 | 29·24 | 39 | 34 | 36·5 | — | 80 |
| 3 | NW | 30·28 | 29·40 | 29·97 | 29·25 | 39 | 28 | 33·5 | — | — |
| 4 | NW | 30·35 | 30·28 | 30·05 | 29·97 | 46 | 21 | 33·5 | — | |
| 5 | SW | 30·28 | 29·96 | 29·98 | 29·48 | 48 | 23 | 35·5 | — | |
| 6 | NW | 29·99 | 29·88 | 29·63 | 29·46 | 45 | 38 | 41·5 | — | |
| 7 | SW | 29·88 | 29·73 | 29·63 | 29·40 | 56 | 42 | 49· | — | |
| 8 | SW | 29·73 | 29·53 | 29·40 | 29·20 | 69 | 44 | 56·5 | — | |
| 9 | W | 29·57 | 29·53 | 29·20 | 29·15 | 68 | 43 | 55·5 | — | 41 |
| 10 | NW | 29·71 | 29·57 | 29·37 | 29·20 | 59 | 44 | 51·5 | — | 5 |
| 11 | SW | 29·71 | 29·58 | 29·37 | 29·20 | 66 | 44 | 55· | — | 36 |
| 12 | NW | 29·86 | 29·58 | 29·55 | 29·20 | 58 | 42 | 50· | — | 12 |
| 13 | NW | 30·14 | 29·86 | 29·81 | 29·55 | 56 | 35 | 45·5 | — | |
| 14 | NW | 30·14 | 29·91 | 29·80 | 29·52 | 56 | 44 | 50· | ·98 | — |
| 15 | SW | 29·91 | 29·78 | 29·52 | 29·38 | 62 | 50 | 50· | — | 15 |
| 16 | NW | 29·80 | 29·78 | 29·44 | 29·30 | 65 | 52 | 58·5 | — | |
| 17 | SW | 29·93 | 29·80 | 29·62 | 29·28 | 63 | 43 | 53· | — | — |
| 18 | W | 29·93 | 29·78 | 29·62 | 29·38 | 63 | 41 | 52· | — | |
| 19 | NW | 29·83 | 29·78 | 29·56 | 29·18 | 61 | 41 | 51· | — | 17 |
| 20 | W | 30·01 | 29·73 | 29·75 | 29·18 | 55 | 40 | 47·5 | — | 3 |
| 21 | W | 30·01 | 29·71 | 29·55 | 29·21 | 60 | 50 | 55· | — | |
| N. M. 22 | W | 29·71 | 29·45 | 29·22 | 29·00 | 57 | 53 | 55· | — | 27 |
| 23 | SW | 29·45 | 29·36 | 29·00 | 28·70 | 59 | 48 | 53·5 | — | 14 |
| 24 | SW | 30·14 | 29·36 | 29·30 | 28·73 | 58 | 37 | 47·5 | — | |
| 25 | NW | 30·28 | 30·14 | 29·96 | 29·80 | 61 | 43 | 52· | ·90 | |
| 26 | SW | 30·30 | 30·28 | 30·10 | 29·96 | 66 | 33 | 49·5 | — | |
| 27 | SE | 30·28 | 30·18 | 30·07 | 30·00 | 64 | 35 | 49·5 | — | |
| 28 | SE | 30·18 | 30·05 | 30·00 | 29·88 | 70 | 44 | 57· | — | |
| 29 | SE | 30·05 | 29·86 | 29·88 | 29·70 | 74 | 51 | 62·5 | — | |
| 30 | SE | 29·95 | 29·86 | 29·72 | 29·60 | 76 | 53 | 64·5 | ·96 | |
| | | 30·35 | 29·40 | 30·10 | 28·70 | 76 | 21 | 49·55 | 2·84 | 3·00 |

Notes.—Fourth Mo. 1. Ground covered with snow a. m.: rainy day and night. 2. Rainy: barometer rises rapidly. 3. Rainy morning: fair p. m.: boisterous night. 4, 5. Fine: hoar-frost. 6—8. Fine. 9. Fine day: rain at night. 10. Showers. 11. Showery: some thunder at noon: rainy night. 12. A heavy hail-storm about three p. m. 13, 14. Fine. 15. Cloudy: showers. 16. Cloudy. 17. Showers. 18. Fine. 19. A hail-storm about four p. m. with

thunder: rainy night. 20, 21. Cloudy. 22. Cloudy: rainy night: stormy. 23. Extremely boisterous night with rain. 24. High wind all day. 25—30. Fine.

## RESULTS.

Winds: E, 2; SE, 4; SW, 9; W, 5; NW, 10.

| | | |
|---|---|---|
| Barometer: | Greatest height | 30·35 in. |
| | Least | 29·40 in. |
| | Mean | 29·863 in. |
| Thermometer: | Greatest height | 76° |
| | Least | 21° |
| | Mean | 49·55° |
| Evaporation | | 2·84 in. |
| Rain | | 3·00 in. |

[Clock Barometer at *Ackworth*, max. 30·10 in.; min. 28·70 in.; mean 29·517 in.]

### *Respiration in a rarefied atmosphere.*

The *Contor* [or condor vulture] rises to a height of twenty thousand feet above the plains, and with its vast spread of pinion seems to grasp the thin air of those elevated regions, and sail about at its ease. This implies a capacity of resisting the effect of a very rare medium on its air-vessels, which must expand prodigiously, and increase the bulk of the body in proportion. In this faculty, however, it is exceeded by an insect. I once attempted to kill a fine *Libellula*, by confining it on the plate of the air-pump, in a large receiver exhausted to a pressure not exceeding a quarter of an inch of quicksilver. The insect soon fixed itself motionless at the junction of the glass with the plate, and was left thus till the next day; (the *vacuum* being kept unimpaired;) but on the re-admission of air it recovered presently, and flew about again in the glass!

| 1830. | Wind. | Barometer. | | By Clock. | | Temp. | | Med. | Evap | Rain, &c. |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Max. | Min. | Max. | Min. | Max. | Min. | | | |
| 5mo.May1 | SW | 30·12 | 29·95 | 29·92 | 29·72 | 67° | 43° | 55· | — | |
| 2 | W | 30·23 | 30·12 | 30·04 | 29·92 | 65 | 34 | 49·5 | — | |
| 3 | SE | 30·23 | 30·16 | 30·01 | 29·99 | 69 | 33 | 51· | — | |
| 4 | E | 30·16 | 30·09 | 29·98 | 29·96 | 67 | 37 | 52· | — | |
| 5 | E | 30·09 | 29·86 | 29·96 | 29·78 | 75 | 52 | 63·5 | — | |
| 6 | E | 29·86 | 29·64 | 29·78 | 29·50 | 78 | 54 | 66· | — | |
| 7 | SE | 29·64 | 29·62 | 29·50 | 29·37 | 81 | 46 | 63·5 | — | |
| 8 | SE | 29·62 | 29·40 | 29·40 | 29·26 | 69 | 47 | 58· | — | — |
| 9 | SW | 29·48 | 29·40 | 29·45 | 29·26 | 61 | 45 | 53· | 90 | 51 |
| 10 | SE | 29·83 | 29·48 | 29·64 | 29·45 | 61 | 41 | 51· | — | 15 |
| 11 | N | 29·92 | 29·82 | 29·68 | 29·64 | 54 | 42 | 48· | — | — |
| 12 | NW | 30·08 | 29·92 | 29·90 | 29·68 | 58 | 44 | 51· | — | — |
| 13 | NW | 30·26 | 30·08 | 30·00 | 29·90 | 54 | 43 | 48·5 | — | — |
| 14 | NW | 30·28 | 30·26 | 30·00 | 29·93 | 65 | 44 | 54·5 | — | |
| 15 | SW | 30·33 | 30·28 | 30·10 | 30·00 | 68 | 38 | 53· | — | |
| 16 | NW | 30·33 | 30·23 | 30·10 | 30·00 | 67 | 48 | 57·5 | — | |
| 17 | SW | 30·23 | 30·06 | 30·00 | 29·75 | 75 | 51 | 63· | — | |
| 18 | W | 30·06 | 29·89 | 29·75 | 29·63 | 75 | 48 | 61·5 | — | |
| 19 | NW | 29·94 | 29·89 | 29·84 | 29·67 | 70 | 45 | 57·5 | — | |
| 20 | SE | 29·94 | 29·84 | 29·83 | 29·77 | 66 | 50 | 58· | 97 | |
| 21 | SE | 29·84 | 29·82 | 29·78 | 29·68 | 67 | 50 | 58·5 | — | 15 |
| New M. 22 | SE | 29·90 | 29·82 | 29·80 | 29·72 | 72 | 50 | 61· | — | |
| 23 | SE | 29·82 | 29·71 | 29·78 | 29·50 | 70 | 54 | 62· | — | 40 |
| 24 | SE | 29·71 | 29·68 | 29·50 | 29·33 | 76 | 48 | 62· | — | |
| 25 | SW | 29·68 | 29·49 | 29·32 | 29·08 | 71 | 52 | 61·5 | — | 14 |
| 26 | NW | 29·58 | 29·49 | 29·25 | 29·10 | 64 | 48 | 56· | — | 24 |
| 27 | NW | 29·93 | 29·58 | 29·75 | 29·25 | 62 | 44 | 53· | — | — |
| 28 | N | 30·14 | 29·93 | 29·85 | 29·75 | 60 | 46 | 53· | — | — |
| 29 | NW | 30·14 | 29·90 | 29·85 | 29 50 | 65 | 50 | 57·5 | 95 | 40 |
| 30 | SW | 29·97 | 29·90 | 29·55 | 29·47 | 66 | 48 | 57· | — | 10 |
| 31 | NW | 30·10 | 29·89 | 29·70 | 29·55 | 64 | 54 | 59· | 15 | — |
| | | 30·33 | 29·40 | 30·10 | 29·08 | 81 | 34 | 56·63 | 2·97 | 2·09 |

Notes.—Fifth Mo. 1—7. Fine. 8, 9. Rainy. 10. Cloudy: showery. 11—14. Cloudy. 15—22. Fine. 23. A violent thunder-storm about 5 p. m. continuing about forty-five minutes: lightning nearly incessant: very heavy rain. 24. Fine. 25. Showers. 26. Showery: wind boisterous. 27. Showers: cloudy. 28. Cloudy and fine. 29. Fine. 30. Showery. 31. Cloudy and fine.

## RESULTS.

Winds: N, 2; E, 3; SE, 9; SW, 6; W, 2; NW, 9.

| | | |
|---|---|---|
| Barometer: | Greatest height | 30·33 in. |
| | Least | 29·40 in. |
| | Mean | 29·913 in. |
| Thermometer: | Greatest height | 81° |
| | Least | 34° |
| | Mean | 56·63° |
| Evaporation | | 2·97 in. |
| Rain | | 2·09 in. |

[Clock Barometer at *Ackworth*, max. 30·10 in.; min. 29·08 in.; mean. 29·695 in.]

A letter from Cork, dated May 4, says:—On the 11th ult. in lat. N 27° 53′ W, the crew of the Campendora, arrived here, saw a large kite flying, and with some difficulty got hold of the line, when it was found that the one flying was attached to a kite of much larger dimensions, made of white calico, extended on bamboo canes, which was lying on the surface of the water: the flying kite was made of purple silk. No object could be ascertained, as there was no mark about them to show why they were set flying.—*P. L. May* 11.

The "object" might be curiosity or amusement; possibly the framer of these kites had read *Franklin* on the art of swimming; but it is worth remembering, that such a device might serve, in latitudes where the winds blow steady from one point, to send to sea an advertisement of the situation of a crew cast upon some uninhabited coast or island. We have frequent notices, now, of bottles cast on shore by the currents, with letters in them: but the foregoing method is much more likely to attract the attention of vessels.—*See Franklin's Works*, vol. ii. p. 212.

On Sunday, [23d,] between the hours of three and four, Horsham was visited by a most awful storm of thunder and lightning, accompanied by rain, which fell in torrents. It partly returned early on Monday morning, at about five o'clock, when the lightning struck a barn belonging to Mr. Nailard, of West Grinstead, in which was a wheat-rick, got in last week. A labourer employed in threshing was turning the sheaves when the barn was struck by the electric fluid, and the building and contents were quickly in flames. We regret to add that the property is totally consumed. The man had the presence of mind, as soon as he perceived the accident, to drive off five fatting beasts which were on the spot.—*Morning Herald. Record, May* 31.

On the 6th a middle-sized ash tree, standing alone, was struck by lightning in Roundhay Park, near Leeds, during a very heavy thunder-storm, with large hail, which did much damage that evening at Bradsworth, and other places near Doncaster. The appearances which I examined indicated rather a returning stroke than one from the clouds. The tree, which was ten or twelve inches in diameter, was split through the whole length of the stem, (about eight feet,) in several rifts, which seem to have opened at the time, and closed again on some splinters of the wood driven outward. The bark was thrown off all round, from within a foot of the bottom to near the insertion of the limbs, and there was a score in the remaining bark connecting the bare part with the ground. I supposed the upper extremity of the stroke to be under a small limb pointing to the south-east. [The tree lived some months after.]

| 1830. | Wind. | Barometer. | | By Clock. | | Temp. | | Med. | Evap | Rain, &c. |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Max. | Min. | Max. | Min. | Max. | Min. | | | |
| 6mo.June1 | SW | 30·18 | 30·10 | 29·90 | 29·70 | 65° | 53° | 59· | — | |
| 2 | SW | 30·18 | 29·87 | 29·90 | 29·60 | 66 | 52 | 59· | — | |
| 3 | SE | 29·87 | 29·68 | 29·60 | 29·28 | 64 | 51 | 57·5 | — | 80 |
| 4 | NW | 30·08 | 29·68 | 29·80 | 29·40 | 61 | 46 | 53·5 | — | |
| 5 | NW | 30·08 | 30·04 | 29·82 | 29·78 | 70 | 49 | 59·5 | — | |
| 6 | W | 30·04 | 29·95 | 29·78 | 29·70 | 71 | 54 | 62·5 | — | — |
| 7 | SW | 30·06 | 30·04 | 29·95 | 29·75 | 65 | 49 | 57· | — | 22 |
| 8 | NW | 30·10 | 30·06 | 30·04 | 29·95 | 64 | 49 | 56·5 | — | — |
| 9 | NW | 30·10 | 30·07 | 30·05 | 29·80 | 60 | 49 | 54·5 | — | 12 |
| 10 | NW | 30·07 | 30·05 | 29·80 | 29·70 | 63 | 47 | 55· | — | 21 |
| 11 | W | 30·05 | 29·84 | 29·82 | 29·48 | 64 | 43 | 53·5 | — | 20 |
| 12 | SW | 29·86 | 29·84 | 29·58 | 29·47 | 67 | 43 | 55· | — | — |
| 13 | NW | 29·85 | 29·79 | 29·47 | 29·40 | 63 | 48 | 55·5 | — | 40 |
| 14 | NW | 29·79 | 29·73 | 29·60 | 29·39 | 63 | 46 | 54·5 | ·95 | 30 |
| 15 | NW | 29·78 | 29·75 | 29·68 | 29·44 | 63 | 47 | 55· | — | 38 |
| 16 | E | 30·00 | 29·78 | 29·81 | 29·69 | 60 | 45 | 52·5 | — | 10 |
| 17 | NE | 30·00 | 29·92 | 29·80 | 29·50 | 62 | 43 | 52·5 | — | 2 |
| 18 | NW | 29·92 | 29·73 | 29·50 | 29·30 | 66 | 46 | 56· | — | 15 |
| 19 | NW | 29·73 | 29·71 | 29·40 | 29·30 | 67 | 45 | 56· | — | |
| New M.20 | NW | 29·71 | 29·62 | 29·42 | 29·36 | 68 | 46 | 57· | — | |
| 21 | NE | 29·62 | 29·50 | 29·37 | 29·30 | 71 | 45 | 58· | — | 15 |
| 22 | NE | 29·93 | 29·49 | 29·70 | 29·35 | 63 | 38 | 50·5 | — | — |
| 23 | NW | 29·95 | 29·93 | 29·72 | 29·69 | 70 | 49 | 59·5 | — | |
| 24 | SE | 29·95 | 29·83 | 29·72 | 29·65 | 70 | 55 | 62·5 | ·90 | 25 |
| 25 | SE | 29·83 | 29·71 | 29·65 | 29·42 | 70 | 58 | 64· | — | — |
| 26 | SW | 29·83 | 29·71 | 29·64 | 29·50 | 73 | 53 | 63· | — | |
| 27 | SE | 29·85 | 29·83 | 29·65 | 29·55 | 78 | 55 | 66·5 | — | |
| 28 | SW | 29·85 | 29·85 | 29·70 | 29·45 | 73 | 57 | 65· | — | 4 |
| 29 | SW | 30·00 | 29·85 | 29·87 | 29·68 | 74 | 45 | 59·5 | — | |
| 30 | E | 30·00 | 29·90 | 29·90 | 29·70 | 76 | 48 | 62· | ·68 | |
| | | 30·18 | 29·49 | 29·95 | 29·28 | 78 | 38 | 57·74 | 2·53 | 3·34 |

NOTES.—Sixth Mo. 1. Cloudy. 2. Fine. 3. Rainy with high wind. 4. Cloudy. 5. Fine. 6. Cloudy and fine. 7. Showery. 8. Fine morning: some rain p. m. 9. Drizzly: rainy. 10. Showery. 11. Rainy. 12. Rainy morning: cloudy. 13. A thunder-storm at half-past twelve: rainy p. m. 14, 15. Rainy. 16. Cloudy: rain at night. 17. Drizzly. 18. Showery. 19. Cloudy, windy. 20. Fine.

21. Fine day: rain at night. 22. Showery morning: fine day. 23. Fine. 24. Fine: a very distant solar halo at 7 p. m. continuing till sunset. 25, 26. Cloudy. 27—30. Fine.

## RESULTS.

Winds: NE, 3; E, 2; SE, 4; SW, 7; W, 2; NW, 12.

| | | |
|---|---|---|
| Barometer: | Greatest height | 30·18 in. |
| | Least | 29·49 in. |
| | Mean | 29·885 in. |
| Thermometer: | Greatest height | 78° |
| | Least | 38° |
| | Mean | 57·74° |
| Evaporation | | 2·53 in. |
| Rain | | 3·34 in. |

[Clock Barometer at *Ackworth,* max. 29·95 in.; min. 29·28 in.; mean 29·632 in.]

We regret to state that the heavy rains which occurred at the latter end of last week have produced inundations, which have done considerable mischief in many parts of the country. On Friday the river Mersey burst its banks at various points between Didsbury and the junction with the Irwell, and overflowed a considerable extent of land, greatly injuring the crops of all kinds growing upon it, and particularly the hay-grass, which was generally ready for the scythe, and which, of course, has been entirely ruined. What renders the calamity more severe is, that this is the third year in succession in which inundations of this kind have taken place when the crops were on the ground, and many farmers have lost their entire crops of hay (on which they principally depend) in each of those three years. The flood on Friday likewise did much mischief in several parts of Derbyshire. The river Wye was higher than has been known for some time past, and completely covered all the low ground on its banks, destroying the crops of grass and corn which grew there. In Warwickshire, Shropshire, and Worcestershire also, the inundations have been very extensive, and very injurious in their consequences.—*Manchester Guardian. Record, June* 14.

The Weather in Scotland.—For some time past the weather, for the season of the year, has been remarkably cold and ungenial, and, in consequence, serious apprehensions are prevailing for the safety of the crops. During the last three months we have not had a single week of settled weather. Within these three weeks there have been a number of showers of mingled rain, sleet, and hail; yet, still the crops not only stand in great need of a warm and genial temperature, but also of moisture. The wheat is a little affected, but the oats are suffering severely. Hay harvest has commenced in the vicinity, and there is fully an average crop, though not nearly so heavy as that of last season. A good many cold showers fell yesterday, and in the evening several ladies were walking muffled up almost as if it had been dead of winter, instead of the middle of summer.—*Scotsman. Record, June* 21.

DR. JENNER'S SIGNS OF RAIN—AN EXCUSE FOR NOT ACCEPTING THE INVITATION OF A FRIEND TO MAKE A COUNTRY EXCURSION.

The hollow winds begin to blow,
The clouds look black, the glass is low,
The soot falls down, the spaniels sleep,
And spiders from their cobwebs creep.
Last night the sun went pale to bed,
The moon in halos hid her head,
The boding shepherd heaves a sigh,
For see! a rainbow spans the sky.
The walls are damp, the ditches smell;
Closed is the pink-eyed pimpernel.
Hark! how the chairs and tables crack;
Old Betty's joints are on the rack.
Loud quack the ducks, the peacocks cry;
The distant hills are looking nigh.
How restless are the snorting swine!—
The busy flies disturb the kine.
Low o'er the grass the swallow wings:
The cricket too, how loud it sings!
Puss, on the hearth, with velvet paws,
Sits smoothing o'er her whisker'd jaws.
Through the clear stream the fishes rise
And nimbly catch the incautious flies;
The sheep were seen, at early light,
Cropping the meads with eager bite.
Though *June*, the air is cold and chill;
The mellow blackbird's voice is still;
The glow-worms, numerous and bright,
Illumed the dewy dell last night;
At dusk the squalid toad was seen,
Hopping, crawling, o'er the green.
The frog has lost his yellow vest,
And in a dingy suit is dress'd.
The leech, disturb'd, is newly risen
Quite to the summit of his prison.
The whirling winds the dust obeys,
And in the rapid eddy plays.
My dog, so alter'd in his taste,
Quits mutton-bones, on grass to feast;
And see yon rooks, how odd their flight!
They imitate the gliding kite:
Or seem precipitate to fall,
As if they felt the piercing ball.
'Twill surely rain:—I see, with sorrow,
Our jaunt must be put off to-morrow!

[*Family Library*, No. XIV.]—*Leeds Mercury.*

Tottenham, Sixth Mo. 25th, 1830. From observations made today, I am inclined to attribute the formation of the *Cymose Cirrostratus* to electrical action, on a cloud previously formed in one situation, and brought by the wind into another, in which circumstances favour its dispersion, as happens also to other clouds. On this evening I have seen many of those bars of cloud, (which preceded larger masses,) borne by the wind in a full sky, into a situation where they successively deployed, on their arrival, into the form of the *Cyma,* and immediately afterwards dispersed entirely; the whole operation in each case taking not much above a minute, though this change is at times much more slowly effected.

On the 7th of the month the lightning struck an ash-tree at Epping Bury, Essex, producing a singular effect on the stem of the tree, which the reader will find treated of at page 374, forward.

| 1830. | Wind. | Barometer. | | By Clock. | | Temp. | | Med. | Evap | Rain, &c. |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Max. | Min. | Max. | Min. | Max. | Min. | | | |
| 7mo.July1 | Var. | 29·90 | 29·74 | 29·74 | 29·46 | 74° | 56° | 65· | — | 48 |
| 2 | SW | 29·74 | 29·52 | 29·46 | 29·32 | 70 | 55 | 62·5 | — | 15 |
| 3 | NE | 29·77 | 29·52 | 29·60 | 29·37 | 70 | 54 | 62· | — | 25 |
| 4 | W | 29·98 | 29·77 | 29·84 | 29·60 | 72 | 50 | 61· | — | — |
| 5 | NW | 30·00 | 29·98 | 29·84 | 29·66 | 72 | 53 | 62·5 | — | |
| 6 | SW | 29·98 | 29·67 | 29·66 | 29·30 | 71 | 50 | 60·5 | — | — |
| 7 | SW | 29·72 | 29·67 | 29·40 | 29·30 | 71 | 49 | 60· | — | 10 |
| 8 | NW | 29·67 | 29·50 | 29·38 | 29·07 | 72 | 48 | 60· | — | |
| 9 | NW | 29·81 | 29·50 | 29·57 | 29·15 | 66 | 49 | 57·5 | ·85 | — |
| 10 | NW | 29·87 | 29·81 | 29·68 | 29·56 | 67 | 45 | 56· | — | |
| 11 | SE | 29·87 | 29·64 | 29·56 | 29·27 | 67 | 57 | 62· | — | 9 |
| 12 | SW | 30·14 | 29·64 | 29·94 | 29·55 | 66 | 46 | 56· | — | |
| 13 | SW | 30·14 | 30·11 | 29·95 | 29·78 | 73 | 46 | 59·5 | — | |
| 14 | SE | 30·11 | 29·96 | 29·78 | 29·62 | 78 | 54 | 66· | — | |
| 15 | SW | 29·99 | 29·96 | 29·73 | 29·65 | 74 | 53 | 63·5 | — | — |
| 16 | W | 30·03 | 29·99 | 29·83 | 29·60 | 74 | 48 | 61· | ·95 | |
| 17 | SW | 30·03 | 29·85 | 29·60 | 29·50 | 68 | 60 | 64· | — | 15 |
| 18 | SW | 29·97 | 29·85 | 29·75 | 29·50 | 65 | 52 | 58·5 | — | 53 |
| 19 | NW | 30·11 | 29·97 | 29·86 | 29·75 | 70 | 54 | 62· | — | 4 |
| New M. 20 | SW | 30·17 | 30·11 | 30·00 | 29·78 | 68 | 50 | 59· | — | |
| 21 | NW | 30·19 | 30·17 | 30·00 | 29·98 | 76 | 58 | 67· | — | |
| 22 | NW | 30·19 | 30·10 | 29·98 | 29·83 | 76 | 57 | 66·5 | — | |
| 23 | NW | 30·10 | 30·03 | 29·90 | 29·73 | 76 | 63 | 69.5 | — | |
| 24 | NW | 30·14 | 30·03 | 30·03 | 29·90 | 78 | 54 | 66· | ·98 | |
| 25 | SE | 30·14 | 30·13 | 30·07 | 30·03 | 80 | 62 | 71· | — | |
| 26 | SE | 30·18 | 30·14 | 30·20 | 30·07 | 86 | 62 | 74· | — | |
| 27 | NE | 30·19 | 30·18 | 30·26 | 30·20 | 85 | 51 | 68· | — | |
| 28 | NE | 30·19 | 30·06 | 30·20 | 30·00 | 83 | 59 | 71· | — | |
| 29 | E | 30·06 | 29·88 | 30·00 | 29·70 | 84 | 62 | 73· | ·80 | — |
| 30 | SE | 29·96 | 29·88 | 29·88 | 29·65 | 90 | 63 | 76·5 | — | |
| 31 | N | 29·96 | 29·95 | 29·89 | 29·60 | 80 | 63 | 71·5 | ·40 | |
| | | 30·19 | 29·50 | 30·26 | 29·07 | 90 | 45 | 64·35 | 3·98 | 1·79 |

NOTES.—Seventh Mo. 1. Fine day: rainy night. 2. Showery. 3. Heavy showers during the day. 4. Showers. 5. Fair and cloudy. 6. Cloudy. 7. Heavy showers during the day: some hail and thunder. 8. Cloudy and fine. 9. Showers. 10. Cloudy and fine. 11, 12. Showers. 13, 14. Fine. 15. Slight showers. 16. Fine. 17. Fine: rain at night. 18. Rainy day. 19. Showers. 20. Cloudy and fine. 21—28. Fine. 29. Fine: a shower in the night. 30, 31. Fine.

## RESULTS.

Winds: N, 1; NE, 3; E, 1; SE, 5; SW, 9; W, 2; NW, 9; Var. 1.

| | | |
|---|---|---|
| Barometer: | Greatest height | 30·19 in. |
| | Least | 29·50 in. |
| | Mean | 29·947 in. |
| Thermometer: | Greatest height | 90° |
| | Least | 45° |
| | Mean | 64·35° |
| Evaporation | | 3·98 in. |
| Rain | | 1·79 in. |

[Clock Barometer at *Ackworth*, max. 30·26 in.; min. 29·07 in.; mean 29·726.]

### ELECTRICAL PHENOMENON.

Mr. John Bonnyman, light-keeper at Inchkeith, in his report to Mr. Stevenson, civil engineer, writes:—"On the 30th July, p. m. we had a storm of thunder and lightning, accompanied with thick fog and rain. I was a good deal alarmed, as there was rain-water in the large circular tray in the inside of the roof of the light-room, and the lightning frequently hissed in it, as if there had been hot iron among the water." [The sound proceeded, in all probability, from some metallic prominent point or angle, (where a *Corposant* might have been seen at the time,) or from the top of the cupola, (if there be one,) upon the building, and was referred to the water merely by an effect of the association of ideas.]—*Edinburgh New Philo. Journ.*

### THUNDER STORM.

Yesterday, [30th July,] one of the most appalling storms of thunder, lightning, and rain, that has visited us for a long time, passed over, or rather settled down upon this city from five o'clock in the afternoon until midnight. The drain at the bottom of South Frederick Street was soon choaked with sand and gravel, and the water at that place having no means of running off, inundated the low shops, which are occupied by milliners and dressmakers, and rendered useless a great number of fancy articles. We have heard of a few accidents from the lightning. A boy at Seafield, near Leith, was struck by the fluid, by which he is paralysed in his legs and arms; and a man was killed at Lauder. The storm appears to have passed from west to north, and to have been general throughout the country. At Glasgow, it began about three o'clock in the afternoon, and continued with little intermission till six in the evening. The storm commenced at Aberdeen soon after nine o'clock on Friday evening, and continued to present the same grand and terrific appearance which it exhibited here till three o'clock on Saturday morning.—*Edinburgh Observer.*

The prayer for dry weather was read in most of our churches on Sunday last.—*Taunton Courier.*

We feel much pleasure in saying that seasonable weather appears to have at length set in, only a small quantity of rain has fallen since Monday; the temperature is sufficiently high, and the grain-crops may yet recover from at least a part of the damage inflicted upon them by the late pelting showers, which were exceedingly heavy and destructive on Sunday evening last. On that day, prayers for fair weather were read in most of the churches in the neighbourhood. The corn-markets have of late considerably advanced, on account of the cheerless prospect before us as to the coming harvest.—*Leeds Intelligencer. Record, July* 19.

| 1830. | Wind. | Barometer. | | By Clock. | | Temp. | | Med. | Evap | Rain, &c. |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Max. | Min. | Max. | Min. | Max. | Min. | | | |
| 8m. Aug. 1 | SW | 29·96 | 29·80 | 29·60 | 29·48 | 77° | 55° | 66· | — | |
| 2 | NW | 29·94 | 29·80 | 29·76 | 29·49 | 70 | 56 | 63· | — | 50 |
| 3 | SW | 30·00 | 29·94 | 29·83 | 29·75 | 72 | 55 | 63·5 | — | — |
| 4 | SE | 29·94 | 29·86 | 29·75 | 29·65 | 78 | 62 | 70· | — | |
| 5 | NW | 29·95 | 29·86 | 29·80 | 29·70 | 75 | 50 | 62·5 | — | |
| 6 | NW | 29·95 | 29·91 | 29·70 | 29·62 | 72 | 50 | 61· | ·98 | |
| 7 | SW | 29·95 | 29·73 | 29·62 | 29·57 | 76 | 52 | 64· | — | |
| 8 | E | 29·80 | 29·73 | 29·62 | 29·60 | 74 | 48 | 61· | — | — |
| 9 | E | 29·80 | 29·68 | 29·60 | 29·55 | 76 | 53 | 64·5 | — | |
| 10 | NE | 29·72 | 29·68 | 29·55 | 29·40 | 68 | 55 | 61·5 | — | 12 |
| 11 | SW | 29·74 | 29·72 | 29·44 | 29·30 | 76 | 54 | 65· | — | — |
| 12 | SW | 29·74 | 29·70 | 29·49 | 29·39 | 73 | 52 | 62·5 | — | — |
| 13 | SW | 29·88 | 29·70 | 29·56 | 29·39 | 63 | 50 | 56·5 | ·85 | 90 |
| 14 | SW | 29·88 | 29·75 | 29·57 | 29·39 | 69 | 49 | 59· | — | 83 |
| 15 | NW | 29·95 | 29·75 | 29·74 | 29·56 | 68 | 44 | 56· | — | 12 |
| 16 | NW | 29·98 | 29·95 | 29·85 | 29·74 | 60 | 43 | 51·5 | — | 13 |
| 17 | NW | 30·13 | 29·98 | 30·06 | 29·85 | 66 | 43 | 54·5 | — | 24 |
| New M. 18 | N | 30·17 | 30·13 | 30·08 | 30·00 | 63 | 39 | 51· | — | |
| 19 | NW | 30·17 | 30·01 | 30·00 | 29·80 | 64 | 43 | 53·5 | — | |
| 20 | NW | 30·01 | 30·01 | 29 82 | 29·78 | 64 | 42 | 53· | — | |
| 21 | NW | 30·03 | 30·01 | 29·84 | 29·79 | 64 | 37 | 50·5 | — | |
| 22 | NW | 30·03 | 30·00 | 29·81 | 29·69 | 70 | 56 | 63· | — | 3 |
| 23 | W | 30·00 | 29·91 | 29·69 | 29·59 | 70 | 43 | 56·5 | ·97 | |
| 24 | SW | 29·91 | 29·83 | 29·60 | 29·40 | 71 | 55 | 63· | — | 2 |
| 25 | NW | 29·85 | 29·78 | 29·64 | 29·35 | 71 | 55 | 63· | — | 12 |
| 26 | NW | 29·80 | 29·78 | 29·64 | 29·36 | 68 | 55 | 61·5 | — | |
| 27 | SW | 29·78 | 29·45 | 29·36 | 29·04 | 70 | 54 | 62· | — | 33 |
| 28 | SW | 29·92 | 29·45 | 29·80 | 29·06 | 68 | 55 | 61·5 | — | 4 |
| 29 | NW | 30·21 | 29·92 | 30·00 | 29·80 | 67 | 41 | 54· | — | 45 |
| 30 | NW | 30·27 | 30·21 | 30·04 | 30·00 | 64 | 36 | 50· | — | |
| 31 | SW | 30·29 | 30·27 | 30·10 | 30·05 | 68 | 45 | 56·5 | ·89 | |
| | | 30·29 | 29·45 | 30·10 | 29·04 | 78 | 36 | 59·38 | 3·69 | 3·83 |

Notes.—Eighth Mo. 1. Fine. 2. Showery. 3—9. Fine. 10. Showery. 11. Fine: showers. 12. Fine. 13. Rainy: some thunder at half-past twelve p. m. and at intervals. 14. Rainy. 15, 16. Showers. 17. Fine: rain at night. 18—21. Fine. 22. Fine: showers in the evening. 23, 24. Fine. 25. Fine: showery evening. 26. Fine. 27. Fine day: rainy night. 28. Rainy. 29. A heavy shower of hail about noon: showery. 30, 31. Fine.

## RESULTS.

Winds: N, 1; NE, 1; E, 2; SE, 1; SW, 11; W, 1; NW, 14.

| | | |
|---|---|---|
| Barometer: | Greatest height | 30·29 in. |
| | Least | 29·45 in. |
| | Mean | 29·903 in. |
| Thermometer: | Greatest height | 78° |
| | Least | 36° |
| | Mean | 59·38° |
| Evaporation | | 3·69 in. |
| Rain | | 3·83 in. |

[Clock Barometer at *Ackworth,* max. 30·10 in.; min. 29·04 in.; mean 29·663 in.]

On Friday last, [13th,] the neighbourhood of Canterbury was visited by a tornado, which committed immense havoc: where it commenced we have not been able to ascertain; but its violence seems to have begun in the neighbourhood of Godmersham, where trees were torn up by the roots, and birds within the influence of the whirlwind killed. It seems to have passed over a district of country extending several miles in length, as at Boughton large trees were damaged, an orchard destroyed, and, in Nash-court Park, the elms were thrown down. In the hop-plantation of Mr. Francis, at Herne-hill, upwards of six thousand poles were prostrated, and the plants materially injured.—*Kentish Chronicle, Aug.* 23, 1830.

### Inundation in Ireland.

The neighbourhood of Enniskillen has been visited by calamities nearly approaching in character to the Moray floods of last August. For a day and night an extremely heavy rain fell without intermission, causing the rivers to rise and deluge the country for miles in every direction. The Enniskillen Chronicle says: "In many instances houses have been swept away, and some of the inmates have perished. The loss of five persons has been reported to us, and we fear we have not yet learned near the extent of human suffering which this awful visitation has occasioned. On the shores of Lough Erne, and the bank of the Scilly's River, the destruction is beyond calculation. The crops of every description have been swept off, and the potatoes, together with the soil on which they grew, have been carried away, leaving not a vestige behind. Upwards of one hundred acres of meadow have been destroyed in that quarter of the country, the rivers having opened for themselves entirely new courses. The wall at Pubble church-yard was prostrated for several perches, and graves were emptied of their contents. A vast number of bridges have been torn away, and the communication of the country greatly interrupted. In many places the poor, who, already suffering extreme distress, had been looking forward anxiously for relief from the potato crops, are, through this awful visitation, thrown destitute on the world, without food, and in many instances without shelter.—*Record, Aug.* 26.

### Courage of a British Tar.

On the 28th ult. the Charlotte packet, Captain Barnes, arrived here (Harwich) from Gottenburgh, having on board twelve of the crew of the bark Friends, of Hull, which was lost on the 11th ult. on the coast of Sweden. The following is an outline of the event.—The Friends sailed from Hull on the 7th of August, and had a fine run till the 11th, when, close in with the coast of Sweden, she encountered a dreadful gale from the WNW, which so suddenly and tremendously convulsed the ocean, that the sea rose mountains high, and her situation became truly alarming. It is in such extremities that British sailors shine above those of any other nation. "The night was drear and dark," and was well calculated to "strike horror to the crew," when about one a. m. a tar at the mast-head hailed the deck, "Breakers close a-head, put your helm down!" but it was too late; the ship struck on a reef of rocks near the Nidigen Light, on that frightful coast. Here a trial of fortitude presented itself not easily described: a dry rock lay just to leeward of them, but a tremendous sea lashed and yawned between it and the ship; the crew consisted of seventeen in all, each exclaiming, as day-light kindly broke upon them, "Oh! that we had but a rope fast to that friendly rock." At length E. Brooker, one of the seamen, called out, "Stand clear, shipmates; hand here the head-line;" he took one end, made it fast round him, and desiring them to stand by to "pay out," boldly ran out upon the jib-boom, and watching a lull, he dashed into the breakers for the rock, and succeeded to the end of the head-line, which was not long enough to reach the rock. In dreadful suspense, this brave fellow was rolled over by the surf at least a dozen times, and hurled about by each succeeding billow, while those on board bent on another line. All this time he was scarcely seen, except at intervals riding or rolling on the top of the sea. However, feeling himself again at liberty, he struck out for the rock, and in the most miraculous manner reached it, we need not say, almost exhausted; having thus obtained a communication, and by this time the natives from the Light coming to his assistance, *the whole crew were saved.* Who will say that Edward Brooker, this brave British tar, is not deserving the notice of Lloyd's, and other institutions for reward, as well as the gratitude so candidly avowed by the sixteen men who, by his perilous exertions, were so providentially saved!—*Kent and Essex Mercury.*

### *Wet Summers.*

Showery summers must be by far the more comfortable, on the whole, to the inhabitants of a great city, provided the rain fall in considerable quantities at a time. Not to mention the annoyances of heat and dust in the streets, the very *atmosphere* of cities must need this cooling and washing, being sensibly purified by great rains; so that the sulphureous and other effluvia are no longer so perceptible. I was much struck with the difference in the air of London, in these respects, in the wet weather of the present summer.

### *On the colouring of the Leaves in Autumn.*

The colouring of the leaves of trees in autumn proceeds from green to *yellow, orange, red, purple,* in a variety of tints. In some

it begins at the edges, and proceeds uniformly towards the middle; in others, by streaks and spots from the centre, or from several points at once. The change goes on most regularly with a clear sky and moist air. The influence of *light* is necessary to it. If the leaves be kept in the dark, all change of this kind is prevented; and if a leaf be covered in any stage of the process, it stops there. The emission of oxygen gas from the leaf also ceases: it is even affirmed that the leaf now absorbs oxygen, which is probable, from the nature of the change going on in the parenchyma. When the colour has been extracted by infusion of the leaf in alcohol or ether, of a beautiful red or yellow, it may be turned to a fine *green* by alcalies, and restored to a red by acids, which also cause the yellow to pass into *red.* Before this chemical change in the parenchyma begins, it is probable that the vital functions of the leaf have ceased; and when it has proceeded to a certain extent, a contraction of the pedicle, at the place of its insertion into the stem, separates it, (in the manner of a fruit fully ripe,) and it falls. Some trees, as the mulberry, part with their leaves without a previous change, to red or yellow; and that, very suddenly, when overtaken by the first cold of winter: an instance will be found in Vol. 2, Table xxv. Note i.

See "Memoires de la Société de Physique et d'Histoire naturelle de Genève," tom. 4, page 1. The present note is made on an article in Jameson's Edinburgh Philosophical Journal, Jan.—March, 1829, page 270, where Macaire Prinsep cites De Saussure, Pelletier avec Caventou, and Decandolle, as experimental observers.

| 1830. | Wind. | Barometer. | | By Clock. | | Temp. | | Med. | Evap | Rain, &c. |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Max. | Min. | Max. | Min. | Max. | Min. | | | |
| 9 mo. Sep. 1 | SW | 30·29 | 30·19 | 30·10 | 29·76 | 70° | 43° | 56·5 | — | |
| 2 | SW | 30·19 | 29·86 | 29·76 | 29·51 | 72 | 50 | 61· | — | |
| 3 | NW | 29·95 | 29·86 | 29·80 | 29·60 | 68 | 43 | 55·5 | — | — |
| 4 | N | 29·95 | 29·77 | 29·75 | 29·40 | 68 | 49 | 58·5 | — | 15 |
| 5 | SW | 29·77 | 29·62 | 29·40 | 29·20 | 60 | 46 | 53· | — | — |
| 6 | W | 29·77 | 29·62 | 29·70 | 29·30 | 63 | 52 | 57·5 | — | 22 |
| 7 | NW | 30·00 | 29·77 | 29·83 | 29·70 | 63 | 50 | 56·5 | — | 4 |
| 8 | NW | 30·00 | 29·91 | 29·80 | 29·52 | 61 | 43 | 52· | — | — |
| 9 | NE | 29·91 | 29·72 | 29·52 | 29·47 | 62 | 52 | 57· | — | 31 |
| 10 | NW | 29·83 | 29·72 | 29·51 | 29·49 | 64 | 42 | 53· | — | |
| 11 | NW | 29·83 | 29·49 | 29·50 | 29·08 | 62 | 47 | 54·5 | ·99 | 18 |
| 12 | SW | 29·56 | 29·49 | 29·30 | 29·08 | 63 | 39 | 51· | — | 20 |
| 13 | NW | 29·56 | 29·52 | 29·30 | 29·17 | 63 | 43 | 53· | — | 7 |
| 14 | SW | 29·70 | 29·52 | 29·38 | 29·18 | 63 | 46 | 54·5 | — | — |
| 15 | SW | 29·70 | 29·68 | 29·39 | 29·06 | 65 | 55 | 60· | — | |
| 16 | SW | 29·75 | 29·68 | 29·53 | 29·37 | 67 | 43 | 55· | — | 19 |
| New M. 17 | SE | 29·75 | 29·65 | 29·56 | 29·38 | 62 | 46 | 54· | — | 26 |
| 18 | SW | 30·00 | 29·65 | 29·66 | 29·40 | 64 | 44 | 54· | — | |
| 19 | SW | 30·00 | 29·70 | 29·40 | 29·17 | 63 | 51 | 57· | — | 16 |
| 20 | W | 29·70 | 29·33 | 29·24 | 28·97 | 65 | 45 | 55· | — | 58 |
| 21 | SW | 29·65 | 29·33 | 29·45 | 28·98 | 61 | 38 | 49·5 | — | 19 |
| 22 | NW | 29·65 | 29·44 | 29·46 | 28·95 | 63 | 49 | 56· | ·89 | 18 |
| 23 | SW | 29·76 | 29·44 | 29·34 | 29·10 | 65 | 45 | 55· | — | 3 |
| 24 | SW | 29·81 | 29·67 | 29·45 | 29·18 | 61 | 45 | 53· | — | 11 |
| 25 | W | 30·26 | 29·81 | 30·04 | 29·46 | 60 | 41 | 50·5 | — | 17 |
| 26 | NW | 30·41 | 30·26 | 30·10 | 30·04 | 62 | 35 | 48·5 | — | |
| 27 | SW | 30·41 | 30·30 | 30·09 | 30·02 | 63 | 52 | 57·5 | — | |
| 28 | SW | 30·30 | 30·10 | 30·02 | 29·88 | 65 | 48 | 56·5 | — | 18 |
| 29 | NW | 30·16 | 30·10 | 29·93 | 29·87 | 64 | 38 | 51· | — | |
| 30 | NW | 30·16 | 30·14 | 29·87 | 29·79 | 64 | 34 | 49· | ·50 | |
| | | 30·41 | 29·33 | 30·10 | 28·95 | 72 | 34 | 54·50 | 2·38 | 3·22 |

Notes.—Ninth Mo. 1, 2. Fine. 3. Slight showers. 4. Fine. 5. Cloudy and fine. 6. Heavy showers, with some hail and thunder. 7. Showery. 8. Cloudy. 9. Rainy. 10. Fine. 11. Fine: rainy night. 12, 13. Showers. 14. Cloudy. 15. Fine. 16. Fine day: rain at night. 17. Rainy. 18. Fine. 19. Cloudy: rain at night. 20. Fine day: rainy night. 21. Rainy morning: fine p. m. 22. Fine day: rain at night. 23. Showery morning. 24. Showery: squally. 25. Cloudy: high wind. 26, 27. Fine. 28. Cloudy: rain at night. 29. Cloudy. 30. Fine.

## RESULTS.

Winds: N, 1; NE, 1; SE, 1; SW, 14; W, 3; NW, 10.

| | | |
|---|---|---|
| Barometer: | Greatest height | 30·41 in. |
| | Least | 29·33 in. |
| | Mean | 29·668 in. |
| Thermometer: | Greatest height | 72° |
| | Least | 34° |
| | Mean | 54·50° |
| Evaporation | | 2·38 in. |
| Rain | | 3·22 in. |

[Clock Barometer at *Ackworth:* max. 30·10 in.; min. 28·95 in.; mean, 29·521 in.]

The Quickest Voyage ever made to India.—The Hon. Company's ship, Marquis Wellington, Capt. Alfred Chapman, sailed from the Downs on the 9th of June, 1829, and arrived at Diamond Harbour, thirty-five miles below Calcutta, on the 4th of September following, being eighty-seven days in the whole, but only eighty-one days from land to land. This is the quickest passage ever made, surpassing even that of his Majesty's ship Medusa, which performed the same, viz. from land to land, in eighty-four days, not many years ago.

Great Hurricane.—We regret to say that accounts have reached Lloyd's this morning, of the occurrence of a tremendous hurricane on the banks of Newfoundland. Three homeward-bound West Indiamen are stated to have foundered, and his Majesty's ship Blanche to have been dismasted. Much more considerable damage than now mentioned, it is alleged, has been done by the gale.—*Sept.* 23.

Lunar Eclipse.—Perth and its neighbourhood seem to have been remarkably favoured by the heavens on the night of Thursday last, for the eclipse was seen from its commencement to its termination with scarcely any interruption.—*Scotsman.*

*Ardrossan, Sept.* 6.—Last Friday and Saturday a tremendous gale of wind set in here, which continued without intermission until Sunday morning.

Recent accounts from America inform us, that the summer had been unusually hot and dry, that the crops were consequently deficient, and that in some parts of Kentucky a quarter of a dollar had been given for a bucket of water. The deficiency of this year's crop is happily compensated by the abundance of the preceding one, of which a sufficient supply remains on hand.—*Record, Nov.* 8.

### SCOTLAND.

*Ceres, Sept.* 16.—We were this day visited by one of the most tremendous storms of rain ever witnessed in this place. The rain commenced about half-past three o'clock in the morning, and continued moderate until about half-past six, at which time it began to fall in torrents. At this time the wooden bridges, to the number of five, disappeared; shortly after the large stone bridge on the turnpike, built about twenty years ago, gave way. A great deal of damage has been done.

*Cupar Angus.*—What we experienced on Sunday and Monday was but a sample of what was seen on Thursday, [16th.] The rain fell in torrents, and the water, rising about four feet higher than on those days, carried off an extraordinary quantity of grain. The Isla was all day covered with sheaves, and, towards night, the water still rising, the farmers had to abandon the process of "dregging," and see their day's labour lost—their wealth go down the river. The oldest inhabitant has not seen so much grain lost in one day. The damage is estimated at above twenty thousand pounds.

*Stirling.*—The Forth on Monday morning presented no ordinary appearance. The quantities of meadow hay, grain, and straw, which were observed floating on the stream, afforded ample testimony of the destructive nature of the tempest on different parts of the Teith and Allon, and on the low grounds of the Forth.—*Stirling Journal. Record, Sept.* 30.

### *State of the Soil in dry and wet Summers.*

In a former part of this work I have noticed the parched and cracked state of the loamy soil of the meadows about Tottenham, in a dry summer. See vol. 2, page 375. The *degree* of this shrinking may be considered as an index of the season; and in some seasons it is wholly wanting. In situations where I could, in some past summers, have thrust my walking-stick down to the head, into fissures two inches wide, I have not found now, in 1830, the smallest crevice in the soil. The total quantity of water, thus imbibed in one season and exhaled in another, must be prodigious!

### *Loss of lives in the snow on the Grand St. Bernard.*

Le 22 Sept. Des voyageurs arrivés à l'Hospice par une affreuse tourmente [in a dreadful cold wind] nous ayant avertis que la grande quantité de neige, la fatigue, et la crainte de périr les avoient obligés d'abandonner un homme et une femme a demi lieu de l'Hospice, nous partimes aussitôt pour leur porter du secours: mais ces malheureux, s'étant égarés, avoient déjà disparu sous la neige. Nous les cherchames jusqu'a la nuit sans pouvoir les trouver, et toutes les recherches que nous fimes depuis lors furent vaines. Le même jour, il est mort un autre voyageur qui a été surpris par la nuit, la tourmente et la neige: l'ayant trouvé trois jours après, nous l'avons transporté à la morgue.—*Bibl. Univ.* Oct. 1830. The reader will compare this with the warmth and paucity of snows in this Alpine district in the spring of this year, already mentioned.

### *Spectrums produced by the sun's rays in the midst of clouds and rain.*

*Ackworth,* Ninth Month, 14th, 1829.—This afternoon, at about a quarter past five, the sky being clouded over in the south-east quarter, and the sun shining through two small openings, there were projected on the space behind some moving clouds, in which a

shower must have been falling at the time, two very brilliant figures, which at first puzzled me as to their nature, resembling precisely those we throw on a wall by the prism. See the fig. 4, page 326. They were undoubtedly portions of what would have formed a segment of the rainbow. A narrow strip of dark cloud was placed between, and showed that the lower was the more remote from the eye of the two. It rained—a sudden thick shower—in a few minutes afterwards. I have seen a detached cloud ornamented, from a like cause, with fine prismatic colours, in the evening sky. Such descriptions may save the reader an occasional difficulty in viewing similar appearances.

*Ackworth,* Ninth Month, 1828.—The equinox has been attended with strong gales of wind, the barometer for about two weeks fluctuating between 29 in. and 29·5 in. In the afternoon, before one of these stormy days, I observed a bright broad Anthelion on a cloud in the east. The last of the gales was preceded and accompanied by dense *woolly Cirrus* clouds, which passed rapidly to the lower modifications. Since the barometer rose again, we have had *Cirrostratus,* which yesterday, a little before sunset, was tinged (by refraction in a thin sheet of this cloud) with the liveliest prismatic colours.

| 1830. | Wind. | Barometer. | | By Clock. | | Temp. | | Med. | Evap | Rain, &c. |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Max. | Min. | Max. | Min. | Max. | Min. | | | |
| 10m. Oct. 1 | SW | 30·16 | 30·16 | 29·90 | 29·80 | 62° | 52° | 57· | — | |
| 2 | SW | 30·16 | 30·05 | 29·85 | 29·68 | 63 | 50 | 56·5 | — | 7 |
| 3 | SW | 30·18 | 30·06 | 30·07 | 29·75 | 62 | 51 | 56·5 | — | |
| 4 | NW | 30·43 | 30·18 | 30·25 | 30·07 | 64 | 38 | 51· | — | |
| 5 | N | 30·43 | 30·40 | 30·26 | 30·16 | 61 | 41 | 51· | — | |
| 6 | NW | 30·41 | 30·40 | 30·20 | 30·14 | 64 | 43 | 53·5 | — | |
| 7 | NW | 30·47 | 30·41 | 30·27 | 30·20 | 65 | 43 | 54· | — | |
| 8 | NW | 30·49 | 30·47 | 30·38 | 30·27 | 65 | 50 | 57·5 | — | |
| 9 | NW | 30·51 | 30·49 | 30·40 | 30·35 | 60 | 49 | 54·5 | — | |
| 10 | NE | 30·51 | 30·43 | 30·35 | 30·26 | 63 | 38 | 50·5 | — | |
| 11 | E | 30·43 | 30·39 | 30·26 | 30·22 | 63 | 46 | 54·5 | ·45 | |
| 12 | NE | 30·44 | 30·43 | 30·30 | 30·23 | 62 | 40 | 51· | — | |
| 13 | E | 30·44 | 30·39 | 30·30 | 30·16 | 61 | 37 | 49· | — | |
| 14 | E | 30·39 | 30·32 | 30·16 | 30·08 | 60 | 30 | 45· | — | |
| 15 | SE | 30·35 | 30·32 | 30·14 | 30·06 | 56 | 28 | 42· | — | |
| New M. 16 | N | 30·44 | 30·35 | 30·24 | 30·14 | 55 | 34 | 44·5 | — | |
| 17 | NW | 30·44 | 30·39 | 30·20 | 30·02 | 56 | 32 | 44· | — | |
| 18 | SE | 30·39 | 30·14 | 30·02 | 29·76 | 61 | 42 | 51·5 | — | |
| 19 | SE | 30·14 | 30·11 | 29·75 | 29·69 | 65 | 48 | 56·5 | — | — |
| 20 | SW | 30·21 | 30·11 | 29·87 | 29·75 | 63 | 40 | 51·5 | ·48 | |
| 21 | SW | 30·27 | 30·21 | 30·02 | 29·87 | 71 | 47 | 59· | — | |
| 22 | SW | 30·37 | 30·27 | 30·25 | 30·00 | 70 | 52 | 61· | — | 12 |
| 23 | NW | 30·43 | 30·37 | 30·30 | 30·16 | 59 | 44 | 51·5 | — | |
| 24 | SW | 30·43 | 30·16 | 30·16 | 29·68 | 58 | 42 | 50· | — | 7 |
| 25 | SW | 30·16 | 30·00 | 29·95 | 29·64 | 60 | 43 | 51·5 | — | 46 |
| 26 | NW | 30·40 | 30·06 | 30·16 | 29·94 | 53 | 31 | 42· | — | |
| 27 | SW | 30·40 | 30·01 | 30·03 | 29·47 | 55 | 38 | 46·5 | ·49 | 10 |
| 28 | NW | 30·01 | 29·79 | 29·47 | 29·30 | 62 | 42 | 52· | — | 17 |
| 29 | NW | 30·08 | 29·75 | 29·83 | 29·30 | 55 | 30 | 42·5 | — | |
| 30 | NW | 30·08 | 30·01 | 29·83 | 29·57 | 55 | 32 | 43·5 | — | |
| 31 | NW | 30·18 | 30·01 | 29·76 | 29·60 | 60 | 48 | 54· | ·30 | 1 |
| | | 30·51 | 29·75 | 30·40 | 29·30 | 71 | 28 | 51·13 | 1·72 | 1·00 |

Notes.—Tenth Mo. 1, 2. Fine. 3. Cloudy. 4—8. Fine. 9. Cloudy. 10—18. Fine. 19. Fine, save a slight shower, morning and evening. 20, 21. Fine. 22. Fine: some rain in the evening. 23. Fine. 24. Overcast: gloomy. 25. Rainy morning: cloudy. 26. Fine. 27. Fine: rain at night. 28. Cloudy: rain at night. 29—31. Fine.

## RESULTS.

Winds: N, 2; NE, 2; E, 3; SE, 3; SW, 9; NW, 12.

| | | |
|---|---|---|
| Barometer: | Greatest height | 30·51 in. |
| | Least | 29·75 in |
| | Mean | 30·275 in. |
| Thermometer: | Greatest height | 71° |
| | Least | 28° |
| | Mean | 51·13° |
| Evaporation | | 1·72 in. |
| Rain | | 1·00 in. |

[Clock Barometer at *Ackworth:* max. 30·40 in.; min. 29·30 in.; mean, 30·004 in.]

*Effect of Rain in promoting the growth of the Body.*

Since man includes in his composition the elements of the inferior natures, and among these the *vegetable,* it is probable that the very growth of our bodies may so depend on moisture, as that it could not go on in air of a certain degree of dryness. It is at least plain, that mankind are of larger growth in rainy countries (whether these be warm or cold) than in those that are subject for a great part of the year to the dry extreme. In like manner, and from like causes, in part, we see the inhabitants of crowded cities, and manufacturing towns arrive at a less growth than those in even worse circumstances, as to diet and clothing, in the country; the latter being so much more exposed, in childhood and during adolescence, to the weather.—L. H.

| 1830. | | Wind. | Barometer. | | By Clock. | | Temp. | | Med. | Evap | Rain, &c. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Max. | Min. | Max. | Min. | Max. | Min. | | | |
| 11m. | Nov. 1 | W | 30·18 | 30·18 | 29·88 | 29·75 | 55° | 42° | 48·5 | — | |
| | 2 | W | 30·18 | 30·01 | 29·84 | 29·53 | 59 | 50 | 54·5 | — | |
| | 3 | SW | 30·01 | 29·93 | 29·53 | 29·37 | 55 | 47 | 51· | — | — |
| | 4 | W | 30·01 | 29·93 | 29·63 | 29·50 | 55 | 44 | 49·5 | — | |
| | 5 | S | 29·93 | 29·70 | 29·55 | 29·20 | 57 | 48 | 52·5 | — | — |
| | 6 | S | 29·70 | 29·23 | 29·20 | 28·67 | 59 | 49 | 54· | — | 98 |
| | 7 | W | 29·78 | 29·23 | 29·50 | 28·75 | 51 | 32 | 41·5 | — | 9 |
| | 8 | W | 30·02 | 29·78 | 29·60 | 29·50 | 44 | 26 | 35· | — | |
| | 9 | SW | 30·02 | 29·90 | 29·54 | 29·20 | 50 | 36 | 43· | — | |
| | 10 | SW | 29·90 | 29·64 | 29·23 | 29·15 | 55 | 44 | 49·5 | — | 75 |
| | 11 | SW | 30·09 | 29·64 | 29·80 | 29·15 | 51 | 38 | 44·5 | ·47 | — |
| | 12 | W | 30·09 | 29·95 | 29·80 | 29·32 | 48 | 30 | 39· | — | |
| | 13 | SE | 29·95 | 29·73 | 29·32 | 29·24 | 55 | 44 | 49·5 | — | 17 |
| | 14 | SW | 29·73 | 29·72 | 29·32 | 29·23 | 50 | 40 | 45· | — | 24 |
| N. M. | 15 | SW | 29·72 | 29·44 | 29·30 | 28·59 | 55 | 44 | 49·5 | — | — |
| | 16 | SW | 29·58 | 29·43 | 29·24 | 28·58 | 54 | 38 | 46· | — | 44 |
| | 17 | SW | 29·90 | 29·58 | 29·79 | 29·24 | 53 | 33 | 43· | — | — |
| | 18 | NW | 30·30 | 29·90 | 30·00 | 29·79 | 50 | 28 | 39· | — | |
| | 19 | W | 30·30 | 30·15 | 29·97 | 29·62 | 44 | 28 | 36· | — | |
| | 20 | SW | 30·15 | 30·03 | 29·70 | 29·50 | 48 | 40 | 44· | — | — |
| | 21 | SW | 30·03 | 29·86 | 29·65 | 29·32 | 54 | 36 | 45· | — | 30 |
| | 22 | W | 30·23 | 29·86 | 30·03 | 29·65 | 49 | 36 | 42·5 | — | |
| | 23 | NW | 30·46 | 30·23 | 30·27 | 30·03 | 48 | 28 | 38· | — | |
| | 24 | NW | 30·47 | 30·46 | 30·26 | 30·20 | 44 | 24 | 34· | — | |
| | 25 | N | 30·47 | 30·26 | 30·24 | 29·96 | 39 | 29 | 34· | — | |
| | 26 | SE | 30·26 | 29·90 | 29·96 | 29·64 | 40 | 30 | 35· | — | |
| | 27 | SE | 29·90 | 29·68 | 29·64 | 29·43 | 41 | 39 | 40· | — | 24 |
| | 28 | SE | 29·97 | 29·90 | 29·75 | 29·45 | 40 | 36 | 38· | — | |
| | 29 | E | 30·04 | 29·97 | 29·87 | 29·75 | 44 | 42 | 43· | — | |
| | 30 | SE | 30·13 | 30·04 | 29·90 | 29·87 | 45 | 40 | 42·5 | ·75 | |
| | | | 30·47 | 29·23 | 30·27 | 28·58 | 59 | 24 | 43·55 | 1·22 | 3·21 |

Notes.—Eleventh Mo. 1—5. Fine. 6. Cloudy morning: very boisterous, with rain, in the evening: night stormy. 7, 8. Cloudy. 9. Very fine. 10. Fine day: rainy night. 11. Cloudy and fine. 12. Fine. 13. Cloudy. 14. Showery. 15. Cloudy. 16. Rainy. 17. Showers. 18. Fine. 19. Cloudy. 20. Drizzly: rain. 21. Fine day: rainy night. 22—24. Fine. 25. Hoar-frost: fine. 26. Cloudy. 27. Fine. 28. Overcast: gloomy. 29, 30. Overcast.

# RESULTS.

Winds: N, 1; E, 1; SE, 5; S, 2; SW, 10; W, 8; NW, 3.

| | | |
|---|---|---|
| Barometer: | Greatest height | 30·47 in. |
| | Least | 29·23 in. |
| | Mean | 29·946 in. |
| Thermometer: | Greatest height | 59° |
| | Least | 24° |
| | Mean | 43·55° |
| Evaporation | | 1·22 in. |
| Rain | | 3·21 in |

[Clock Barometer at *Ackworth*, max. 30·27 in.; min. 28·58 in.; mean, 29·549 in.]

## Inundation at Manchester.

On Monday evening, [15th?] the rain fell in torrents, and during the succeeding night there was a storm, such as has not been experienced in this part of the kingdom for upwards of fifty years. Till twelve o'clock yesterday the rain continued, and apprehensions were justly entertained of serious results.

In the afternoon of yesterday the river Irwell rose upwards of forty feet beyond its usual level. Many hundreds of acres of land, in the vicinity of Broughton, were laid under water, and in one field no less than eleven cows were drowned.

Towards four o'clock the river Irwell presented an awful scene. The wrecks of houses, cottages, bleaching works, &c. were seen floating down the tide. Upwards of one hundred large casks, of about forty gallons measurement each, passed through the arches of the various bridges in this town, announcing the destruction of the large print-works and dyehouses of Messrs. Ramsbottom, near Bury.

Towards Warrington the effects of the storm were terrible. The coaches from that town were detained for several hours, the road being inundated.

It is impossible to form a correct estimate of the loss sustained through this appalling flood, but it must certainly exceed a hundred thousand pounds.—*Evening Paper. Record, Nov.* 22.

## Hurricanes.

There was a dreadful hurricane on the coast of Galway on the morning of Saturday week, [20th?] The damage done to property may be estimated at thirty thousand pounds. On the Cunnemarra coast fourteen bodies have been found. At Ardry several boats have been wrecked, and several lives lost. In some parts of the town of Galway the flood reached to the upper story of the houses, and the inhabitants escaped through the attic windows in boats. A square-rigged vessel was actually forced over some rocks, and lodged high and dry in a potato-field. The storm did great damage in Ennis and other parts of Clare. The bridge of Oronmore is broken down by the wind and flood; two women and a child were drowned in their beds. At Cavan's bridge five persons were drowned.—*Limerick Chronicle.*

On Saturday last [20th?] there was a violent gale at Inverness; it blew from the SW. About two thousand trees were thrown down in the wood of Dochfour, and an immense number in other woods. Several houses were unroofed.—*Inverness Courier. Times, Nov.* 30.

During a storm which occurred at Ramsgate, in 1822, a wave broke upon the pier with tremendous violence, rising above it to the height of fourteen feet, and in falling on the pavement, raised a thirty-six pounder carronade, with its carriage, over a stone-ledge several inches high, and swept it into the sea. Some idea of the force of the water may be inferred from the fact, that it would have required the united strength of twenty men to have pitched the carronade over the ledge.

| 1830. | Wind. | Barometer. | | By Clock. | | Temp. | | Med. | Evap | Rain, &c. |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Max. | Min. | Max. | Min. | Max. | Min. | | | |
| 12m.Dec.1 | SE | 30·13 | 29·96 | 29·90 | 29·65 | 42° | 35° | 38·5 | — | |
| 2 | SE | 29·96 | 29·77 | 29·65 | 29·60 | 38 | 35 | 36·5 | — | 5 |
| 3 | SE | 29·89 | 29·77 | 29·64 | 29·52 | 39 | 35 | 37· | — | |
| 4 | NE | 29·90 | 29·89 | 29·65 | 29·45 | 43 | 36 | 39·5 | — | |
| 5 | E | 29·90 | 29·33 | 29·45 | 28·96 | 44 | 34 | 39· | — | |
| 6 | E | 29·33 | 29·31 | 29·16 | 28·96 | 47 | 43 | 45· | — | — |
| 7 | E | 29·33 | 29·31 | 29·20 | 29·10 | 48 | 44 | 46· | — | |
| 8 | NE | 29·31 | 29·03 | 29·10 | 28·83 | 45 | 43 | 44· | — | 44 |
| 9 | NE | 29·16 | 29·00 | 29·85 | 28·80 | 52 | 39 | 45·5 | — | 4 |
| 10 | NW | 29·43 | 29·16 | 29·02 | 28·85 | 43 | 33 | 38· | — | |
| 11 | W | 29·59 | 29·43 | 29·50 | 29·02 | 41 | 29 | 35· | — | |
| 12 | NW | 30·36 | 29·59 | 30·12 | 29·50 | 42 | 28 | 35· | — | — |
| 13 | NW | 30·50 | 30·34 | 30·18 | 30·10 | 41 | 24 | 32·5 | — | |
| 14 | W | 30·54 | 30·50 | 30·28 | 30·20 | 40 | 32 | 36· | — | — |
| New M. 15 | NW | 30·54 | 30·47 | 30·30 | 30·17 | 38 | 32 | 35· | — | 18 |
| 16 | N | 30·47 | 30·17 | 30·25 | 29·90 | 36 | 22 | 29· | — | — |
| 17 | W | 30·30 | 30·17 | 30·13 | 30·00 | 36 | 29 | 32·5 | — | 23 |
| 18 | NW | 30·35 | 30·30 | 30·12 | 29·96 | 37 | 31 | 34· | — | |
| 19 | SW | 30·30 | 29·70 | 29·96 | 29·21 | 43 | 35 | 39· | — | |
| 20 | NW | 29·99 | 29·70 | 29·65 | 29·45 | 35 | 32 | 33·5 | — | |
| 21 | NW | 29·99 | 29·73 | 29·60 | 29·07 | 45 | 34 | 39·5 | — | |
| 22 | NW | 29·73 | 29·61 | 29·35 | 29·05 | 48 | 30 | 39· | — | — |
| 23 | NW | 29·64 | 29·61 | 29·40 | 29·20 | 42 | 16 | 29· | — | |
| 24 | NW | 29·64 | 29·58 | 29·20 | 29·05 | 31 | 12 | 21·5 | — | — |
| 25 | NW | 29·61 | 29·58 | 29·20 | 29·09 | 30 | 17 | 23·5 | — | |
| 26 | NW | 29·61 | 29·50 | 29·15 | 28·95 | 30 | 23 | 26·5 | — | |
| 27 | SE | 29·50 | 29·31 | 29·04 | 28·94 | 34 | 27 | 30·5 | — | |
| 28 | SW | 29·89 | 29·31 | 29·40 | 29·04 | 35 | 20 | 27·5 | — | |
| 29 | SW | 29·90 | 29·68 | 29·17 | 29·36 | 37 | 23 | 30· | — | |
| 30 | SE | 29·68 | 29·42 | 29·36 | 28·80 | 47 | 41 | 44· | — | — |
| 31 | SW | 29·95 | 29·42 | 29·50 | 28·80 | 45 | 29 | 37· | ·85 | 45 |
| | | 30·54 | 29·00 | 30·30 | 28·80 | 52 | 12 | 35·43 | ·85 | 1·39 |

Notes.—Twelfth Mo. 1—3. Gloomy. 4. Cloudy. 5. Cloudy and fine. 6, 7. Cloudy. 8. Cloudy: rainy night. 9, 10. Gloomy. 11. Cloudy. 12. A little sleet about eleven a. m.: day fine. 13, 14. Fine. 15. A very dense fog all the day. 16. Some snow early: drizzly: foggy. 17. Ground covered with snow: sleety. 18. Fine. 19. Overcast. 20. Fine: high wind. 21. Fine. 22. Drizzly. 23. Fine. 24. Fine: some snow, evening. 25, 26. Foggy: gloomy: lunar halo. 27. Gloomy: a considerable fall of snow

during the night. 28. Gradual thaw during the day: began to freeze again at midnight. 29. Gentle thaw: frost at night: lunar halo. 30. Overcast. 31. Gradual thaw during the day.

## RESULTS.

Winds: N, 1; NE, 3; E, 3; SE, 5; SW, 4; W, 3; NW, 12.

| | | |
|---|---|---|
| Barometer: | Greatest height | 30·54 in. |
| | Least | 29·00 in. |
| | Mean | 29·775 in. |
| Thermometer: | Greatest height | 52° |
| | Least | 12° |
| | Mean | 35·43° |
| Evaporation | | 0·85 in. |
| Rain | | 1·39 in. |

[Clock Barometer at *Ackworth:* max. 30·30 in. min. 28·80 in.; mean, 29·415 in.]

*Aurora Borealis:—Singular Rainbow.*

*Ackworth,* Twelfth Month, 1830.—On the 11th, in the evening, we had a fine exhibition of aurora borealis, in the usual form of streamers rising from an arch of still light, among *Cirrostratus* clouds, near the horizon. On the 12th, the latter appearance was repeated, together with that of rolling clouds of luminous matter. [The School Register says:—Billows of light rolling about in different parts of the northern horizon.] The barometer having begun a rapid rise on the former evening, it was not completed when this second aurora took place. On this day we had a little snow, and frost after it. On the 14th, we had a singular appearance of the rainbow, which was visible in a misty air, without rain, yet coloured, and for the most part perfect, *for a full hour before noon, and as much after.* The next day was windy and very wet; and although the barometer maintained its elevation, the weather was more inclined to precipitation after the rise than before. The aurora is noticed again in the School Register on the 22d of the month.

First Month, 11th, 1831. On the evening of the 7th, it being moderate frost, there was again a grand display of the aurora. I did not see the commencement, when it was said to consist of coloured streamers, darting up to a central point overhead; but at nine p. m. there was in the north a fine arch of light, spanning like a bridge the whole space, from the north-east to the north-west points of the horizon, and showing, in these, masses of light which might be called abutments. Nearer to the zenith there was another

arch, and the rudiments of a third, a little beyond the zenith. After about half an hour's absence I looked again, and saw little light in the north; but the appearance before described now presented itself in the south, so as again to resemble a fine bridge, elevated in that direction. If this were the same which I had before seen in the north, it must have moved with great swiftness. There were streamers from all these arcs toward the zenith, while I observed them, but not so conspicuous as to take off the attention from the arches themselves. We had, subsequently to these appearances, the *Cirrus* cloud in the higher atmosphere; which gradually increased in density, until, on the forenoon of the 9th, the sky was nearly overcast with this modification, showing also a little *Cirro-cumulus* above, and in the night some rain ensued. There had been some *Cirrostratus* visible in the NW, at the time of the aurora, which appeared in the south afterwards; but the prevalent modification was clearly *Cirrus*, and a strong steady breeze from the north attended the formation and descent of these clouds. Was the aurora, in respect of its electricity, connected with the formation and persistence of this large quantity of the *Cirrus* cloud? and did not the northerly current prevail above, in the region which exhibited the arches, before we experienced it at the earth's surface?

*Singular effect of Lightning on the stem of a tree.*

I am indebted to my friend Thomas Squire, of Epping, for the following communication, which I received in a letter from him of the 17th ultimo.—"June 7, 1830, between one and two p. m. some very dark clouds came suddenly over from the northward, which produced a copious fall of rain, accompanied with two detonating claps of thunder, one of which struck an ash-tree at Epping Bury. This tree stands in a large open field, near the bottom of a valley, by itself, and at some distance from the hedge—is lofty, and of considerable size. The lightning seems first to have struck *a south-west and an opposite arm;* descending from these to the body, down which it passed on the south-east side, forcing off the bark in its course, of the width of six or eight inches, to within about two feet from the bottom, where it struck a sheep, which it killed, and thence entered the ground. But the most striking circumstance (and which would seem more immediately to claim the attention of the philosophical inquirer) was, *that a slip of bark, of about a quarter of an inch wide, was left adhering to the wood, all along the middle of the electric tract, down the body of the tree.* To me, this is inexplicable: for in other cases of this nature, where a charge has not been sufficient to rive the wood, I have

generally found a groove down the middle of the space bereft of bark; but in the case here cited, we find the force so neutralised in that part, where we should have expected it to have been the most powerful, as not to be sufficient to separate the bark from the wood. I should like to see thy remarks upon it, as it really appears to me very singular. The supposition of a returning stroke will not explain the matter. Perhaps the electric spark divided into two parts when it struck the arms of the tree, and these sparks, or balls, afterwards became repulsive at the approximate point of their spheres of action. In this case, had the charge been sufficient to have entered the surface of the wood, there must have been *two* grooves, one on each side of the slip of bark, and parallel to it."

I may first observe that the very case here noticed, of the single groove in the wood, fell under my own examination at Tottenham this spring; where an elm, about seventy feet high, and of proportionate diameter, had a groove ploughed in the wood, an inch deep, from under a fork on the north side of the tree, to the ground on the north-east side, the bark being also thrown off to several inches in width, and with the splinters of the wood scattered to a great distance. The present effects would induce one to refer to the experiment with the card, usually brought in proof of the agency of *two fluids* passing in opposite directions, where, after the discharge, a *burr* is found pointing outward, and a *hole* inwards, close together, on each side of the card, *were it not for the peculiar circumstance that the tree in question was struck at once on two opposite arms.* Now, the two balls, forming probably, in appearance, (as we often see it happen,) two branches of light by their rapid movement, may have acquired, by their union with the sap of the tree, qualities which effectually prevented them from re-uniting, during their progress, to the bottom of the stem. So that the term "repulsive," employed by my friend in his letter, seems quite appropriate; and this remarkable instance may serve hereafter, in aid of further illustrations of the theory of these effects—effects so varied and singular, that we may very justly make it a question, whether our notions of a single fluid, always homogeneous, and of like properties, must not in time give place to the theory of a peculiar base or vehicle, variously charged with other substances as impregnations.—L. H. Ackworth, Seventh Month, 8th, 1831.

In a subsequent letter of the 8th of Eighth Month, my friend writes as follows: "I have again visited the tree. I am now inclined to think that the SW, or rather WSW arm, first received the discharge; and that the disbarking of a part of the opposite arm was caused by the force of the explosion, on reaching the angle formed by these two main arms at the commencement of the stem of the

tree. The western branch inclines more towards the horizon than the other, which is nearly upright. The bark was forced off from the upper side of [this] arm, about three or four feet in length, and six or seven inches in breadth, where the small slip of bark along the middle of the bare part is now visible; and appears to be of the same breadth as that down the trunk of the tree. Between two and three feet of this arm, next the tree, is not uncovered; but on the opposite or under side of the *eastern* arm, the bark is removed for about three feet in length, where no slip appears [left on.] It is, however, again to be seen at the commencement of the trunk, and continues (with the exception of some little interruptions from lateral boughs) down the stem to near the ground, where the sheep lay. On the clear part of the tree the slip was very perfect, and by taking hold of the lower part, it came off in one piece of several feet in length. Although the *eastern* branch lost some of its bark, yet I now think that the electrical current did not pass along any part of it; but that the slab of bark was forced up by the explosion at the angle, and so broke off above the junction of the arms. *That two sparks or balls struck the tree at the same instant is evident;* and that they both entered at the western arm is, I think, also clear."

# ADDENDA TO THE OBSERVATIONS.

1828—30.—The following Table shows the extreme and mean temperature, the depth of rain, and prevailing winds at *Ackworth*, for each month of the period for which the Observations on the *Clock Barometer*, kept there, are inserted in this work.

| 1828. | Temp. Max. | Temp. Min. | Med. | Rain. | Winds. |
|---|---|---|---|---|---|
| 4 mo. April | 68 | 28 | 45·62 | 4·01 | Variable. |
| 5 May | 71 | 36 | 53·38 | 1·82 | Variable. |
| 6 June | 82 | 43 | 60·10 | 1·27 | Westerly and variable. |
| 7 July | 79 | 45 | 61·44 | 9·48 | Variable. |
| 8 Aug. | 76 | 43 | 59·74 | 1·28 | SW. |
| 9 Sept. | 76 | 34 | 56·66 | 2·76 | Southerly and variable. |
| 10 Oct. | 69 | 31 | 50·00 | 0·92 | SW and W. |
| 11 Nov. | 59 | 19 | 45·00 | 2·77 | Variable and westerly. |
| 12 Dec. | 58 | 29 | 44·67 | 1·84 | SW and S. |
| 1829. | | | | | |
| 1 mo. Jan. | 48 | 10 | 32·11 | 0·65 | W, NW, and easterly. |
| 2 Feb. | 56 | 11 | 38·52 | 1·79 | Westerly and variable. |
| 3 Mar. | 58 | 21 | 38·81 | 0·32 | N, NW, and variable. |
| 4 April | 61 | 20 | 44·22 | 2·94 | Variable. |
| 5 May | 72 | 34 | 53·76 | 0·36 | Southerly, variable, northerly. |
| 6 June | 79 | 36 | 58·47 | 2·08 | Variable. |
| 7 July | 77 | 38 | 61·45 | 3·00 | SW. |
| 8 Aug. | 74 | 41 | 57·68 | 5·19 | Westerly. |
| 9 Sept. | 65 | 35 | 52·41 | 3·27 | SW and variable. |
| 10 Oct. | 66 | 29 | 47·32 | 1·21 | Westerly and variable. |
| 11 Nov. | 56 | 22 | 41·00 | 1·27 | SW and variable. |
| 12 Dec. | 49 | 15 | 33·96 | 0·77 | SE, S, and variable. |
| 1830. | | | | | |
| 1 mo. Jan. | 45 | 11 | 32·00 | 0·71 | Variable. |
| 2 Feb. | 60 | 13 | 36·32 | 3·12 | Southerly and variable. |
| 3 Mar. | 74 | 26 | 46·24 | 0·42 | Westerly. |
| 4 April | 74 | 21 | 48·50 | 3·44 | SW, W, and S. |
| 5 May | 68 | 33 | 51·10 | 3·75 | Variable. |
| 6 June | 75 | 39 | 55·00 | 4·88 | Westerly. |
| 7 July | 82 | 43 | 61·55 | 4·37 | Westerly and variable. |
| 8 Aug. | 70 | 41 | 56·90 | 2·36 | SW, NW, and variable. |
| 9 Sept. | 66 | 39 | 53·68 | 3·79 | Variable and SW. |
| 10 Oct. | 70 | 28 | 51·22 | 0·32 | Westerly and variable. |
| 11 Nov. | 61 | 26 | 43·88 | 2·21 | Variable. |
| 12 Dec. | 47 | 15 | 34·56 | 2·21 | Variable and NW. |

*The following Observations, made at* Tottenham, *during a very wet season, were omitted in their place in the series.*

Fourth Mo. 1824.—Rain at *Tottenham* 2·10 in. On the 15th, in the morning, it began to rain with a steady breeze, and ceased on the 16th, about noon, having rained *thirty hours.*

Fifth Mo.—Rain at *Tottenham* 4·25 in. On the 9th, the wind E, with *Cirrus:* fine, cool breeze a. m. Overcast p. m. with *Cirri* of an electrical character. About seven, a solar halo, exhibiting in one part the prismatic colours. About ten, a lunar halo. 10. Wind NE, *Cirrus:* very fine day. A large lunar halo about half-past ten, with two paraselenæ, formed apparently by the intersection of the halo with a circle parallel to the horizon, but of which only a small part was distinguishable. 11. NE, very cool and cloudy with high wind. 12. NE, cloudy. 13. A rain began this morning, which continued, with very little intermission by day, to the evening of the 15th, when, after falling more heavily for a while, it ceased. There fell in that space of time 3·15 inches!

Sixth Mo.—Rain at *Tottenham* 4·13 in. On the 6th, (as for some days before,) wind NE, cloudy and cool a. m.: fine p. m. The *Stratus* made its appearance at sunset, very suddenly. 8. Very misty a. m. 9. Thunder-clouds p. m. finely coloured, to the E and S. At night prismatic colours on the clouds, a pale green predominant. It rained from before five to three p. m. At sunset a perfect bow, which was perceptible so late as 8 h. 15 m. p. m. After which we had a little more rain and wind. 11. NE, fine. 12. NW, cloudy most of the day: fine evening. 13. Very misty a. m.: heavy clouds during the day: began to rain about seven p. m.: rained heavily through the night, 0·92 in. 23. NW, rain 1·10 in. 24. NW, W, rain 0·62 in.

Tenth Mo.—Rain at *Tottenham* 3·15 in. On the 10th we had rain at *Tottenham* 1·02 in.; while at Stratford they registered only 0·53 in. I suspect here a loss of 0·50 in the measuring off.

Eleventh Mo.—Rain at *Tottenham* 3·99 in.—L. H.

The following Observations of the *max.* and *min.* of Sixes Thermometer, were made at the Laboratory, *Plaistow,* previously to the commencement of the regular Tables. The Observations of the *max.* and *min.* temperature relate to the twenty-four hours *ending* at 9 a. m. of the day indicated: the notes belong to the day.

| 1806. | Temp. | | 1806. | Temp. | | 1806. | Temp. | |
|---|---|---|---|---|---|---|---|---|
| | Max. | Min. | | Max. | Min. | | Max. | Min. |
| 1 mo. Jan. 28 | 36 | 34 | 3 mo. Mar. 1 | 42 | 28 | 4 mo. April 2 | 43 | 31 |
| 29 | 36 | 31 | 2 | 44 | 34 | 3 | 46 | 29 |
| 30 | 34 | 22 | 3 | 51 | 42 | 4 | 46 | 27 |
| 31 | 34 | 22 | 4 | 52 | 42 | 5 | 50 | 35 |
| 2 mo. Feb. 1 | 41 | 25 | 5 | 45 | 32 | 6 | 48 | 30 |
| 2 | 37 | | 6 | 43 | 27 | 7 | 57 | 32 |
| 3 | 39 | 26 | 7 | 49 | 25 | 8 | 54 | 32 |
| 4 | 38 | 30 | 8 | 51 | 38 | 9 | 57 | 37 |
| 5 | 45 | 33 | 9 | 48 | 34 | 10 | 56 | 38 |
| 6 | 35 | 32 | *a.* 10 | 40 | 23 | 11 | 56 | 34 |
| 7 | 53 | 43 | *a.* 11 | 40 | 29 | *a.* 12 | 40 | 30 |
| 8 | 51 | 34 | 12 | 38 | 21 | *a.* 13 | 37 | 28 |
| 9 | 51 | 42 | 13 | 33 | 21 | *a.* 14 | 38 | 31 |
| 10 | 53 | | 14 | 44 | 26 | *a.* 15 | 44 | 31 |
| 11 | 43 | 29 | 15 | 50 | 25 | 16 | 42 | 25 |
| *a.* 12 | 46 | 31 | 16 | 35 | 27 | 17 | 55 | 27 |
| 13 | 44 | 34 | 17 | 39 | 35 | 18 | 60 | 40 |
| 14 | 44 | 24 | 18 | 51 | 35 | 19 | 62 | 49 |
| 15 | | | 19 | 50 | 36 | 20 | 63 | 45 |
| 16 | 43 | 29 | 20 | 51 | 39 | 21 | 66 | 47 |
| 17 | 46 | 31 | 21 | 51 | 33 | 22 | 63 | 46 |
| 18 | 54 | 29 | 22 | 52 | 38 | 23 | 58 | 40 |
| 19 | 45 | 36 | 23 | 58 | 37 | 24 | 50 | 38 |
| 20 | 45 | 37 | 24 | 60 | 42 | 25 | 57 | 44 |
| 21 | 43 | 27 | 25 | 52 | 44 | 26 | 54 | 38 |
| 22 | 52 | 39 | 26 | 51 | 43 | 27 | 51 | 29 |
| 23 | 53 | 28 | 27 | 53 | 42 | 28 | 57 | 42 |
| 24 | 51 | 39 | 28 | 50 | 39 | 29 | 52 | 27 |
| 25 | 56 | 39 | 29 | 43 | 38 | 30 | 56 | 40 |
| 26 | 55 | 45 | 50 | 43 | 37 | 5 mo. May 1 | 60 | 39 |
| 27 | 52 | 32 | 31 | 48 | 34 | 2 | 64 | 47 |
| 28 | 52 | 34 | 4 mo. April 1 | 50 | 32 | 3 | 74 | 46 |

NOTES.—*a.* Snow.

| 1806. | Temp. Max. | Min. | 1806. | Temp. Max. | Min. | 1806. | Temp. Max. | Min. |
|---|---|---|---|---|---|---|---|---|
| 5 mo. May 4 | 52 | 39 | 6 mo. June 5 | 66 | 45 | *c.* 7mo. July 7 | 68 | 48 |
| 5 | 55 | 38 | 6 | 73 | 45 | 8 | 70 | 48 |
| 6 | 64 | 38 | 7 | 70 | 48 | 9 | 75 | 61 |
| 7 | 72 | 45 | 8 | 75 | 44 | 10 | 87 | 55 |
| 8 | 72 | 48 | 9 | 87 | 50 | *d.* 11 | 90 | 61 |
| 9 | 74 | 47 | 10 | 95 | 52 | *e.* 12 | 79 | 53 |
| 10 | 72 | 47 | 11 | 93 | 62 | *e.* 13 | 74 | 58 |
| 11 | 73 | 49 | 12 | 78 | 42 | *f.* 14 | 80 | 62 |
| 12 | 71 | 47 | 13 | 87 | 43 | *e.* 15 | 75 | 50 |
| 13 | 63 | 42 | 14 | 81 | 46 | *e.* 16 | 77 | 54 |
| 14 | 57 | 44 | 15 | 87 | 54 | *g.* 17 | 74 | 46 |
| 15 | | | 16 | 82 | 58 | *h.* 18 | 71 | 44 |
| 16 | 69 | 38 | 17 | 84 | 46 | *e.* 19 | 70 | 47 |
| 17 | 69 | 40 | 18 | 72 | 36 | 20 | 69 | 46 |
| 18 | 70 | 43 | 19 | 71 | 42 | *t.* 21 | 71 | 51 |
| 19 | 71 | 38 | 20 | 80 | 44 | *i.* 22 | 77 | 43 |
| 20 | 70 | 38 | 21 | 84 | 45 | *k.* 23 | 75 | 54 |
| 21 | 72 | 47 | 22 | 75 | 54 | *l.* 24 | 72 | 54 |
| 22 | 66 | 49 | 23 | 72 | 45 | 25 | 73 | 55 |
| 23 | 71 | 40 | 24 | 70 | 37 | 26 | 71 | 53 |
| 24 | 69 | 41 | 25 | 73 | 52 | *m.* 27 | 77 | 46 |
| 25 | 71 | 50 | 26 | 72 | 52 | *t.* 28 | 78 | 54 |
| 26 | 79 | 49 | 27 | 64 | 55 | *n.* 29 | 77 | 56 |
| 27 | 77 | 47 | 28 | 61 | 43 | *o.* 30 | 76 | 54 |
| 28 | 80 | 50 | 29 | 67 | 35 | *p.* 31 | 74 | 58 |
| 29 | 81 | 53 | 30 | 74 | 56 | *q.* 8mo. Aug. 1 | 78 | 58 |
| 30 | 77 | 42 | 7 mo. July 1 | 68 | 54 | *r.* 2 | 70 | 54 |
| 31 | 71 | 36 | 2 | 66 | 46 | *t.* 3 | 69 | 52 |
| 6 mo. June 1 | 60 | 40 | 3 | 72 | 56 | *t.* 4 | 72 | 48 |
| 2 | 70 | 48 | 4 | 83 | 59 | *t.* 5 | 72 | 46 |
| 3 | 78 | 52 | 5 | 79 | 46 | *t.* 6 | 74 | 49 |
| *b.* 4 | 80 | 53 | 6 | 79 | 54 | 7 | 76 | 58 |

NOTES.—*b.* Rain: the wind W and SSW. *c.* Thunder. *d.* Thunder; during which, between nine and ten a. m. the temp. fell from 70° to 67°. The rain continued heavy. At twenty minutes before eleven, a very singular loud clap, succeeded by two or three lower ones, resembling the discharge of cannon: thermometer 64½°. The swallows flew very high during the storm: at a quarter past eleven, thermometer 64°. Lightning vivid and thunder loud: at a quarter before twelve, thermometer 63°. The wind, which had been SW, shifted during the storm to NE–E–SE: at twelve it was SE. At one p. m. the storm ceased: thermometer 68°, wind S: at four, thermometer 75°. *e.* Rain. *f.* Some thunder and heavy rain p. m.

| 1806. | | Temp. Max. | Temp. Min. | 1806. | | Temp. Max. | Temp. Min. | 1806. | | Temp. Max. | Temp. Min. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 8 mo. Aug. | 8 | 79 | 54 | 9 mo. Sept. | 9 | 74 | 54 | 10 mo. Oct. | 11 | 64 | 46 |
| | 9 | 84 | 55 | | 10 | | | | 12 | 62 | 41 |
| | 10 | 84 | 55 | | 11 | 66 | 55 | | 13 | 58 | 35 |
| | 11 | 77 | 49 | | 12 | | | | 14 | | |
| *s.* | 12 | 82 | 56 | | 13 | 65 | 45 | | 15 | 63 | 49 |
| *u.* | 13 | 79 | 56 | | 14 | 64 | 23 | | 16 | 59 | 44 |
| *w.* | 14 | 72 | 54 | *a.* | 15 | 72 | 49 | | 17 | 55 | 38 |
| | 15 | 69 | 49 | | 16 | 63 | 41 | | 18 | 52 | 35 |
| | 16 | 70 | 48 | | 17 | 61 | 42 | | 19 | 55 | 38 |
| | 17 | 72 | 50 | | 18 | 65 | 39 | | 20 | 57 | 32 |
| | 18 | 79 | 47 | | 19 | 70 | 56 | | 21 | 54 | 37 |
| *x.* | 19 | 78 | 48 | | 20 | | | | 22 | 56 | 42 |
| *y.* | 20 | 74 | 58 | | 21 | 71 | 57 | | 23 | 51 | 35 |
| *t.* | 21 | 77 | 58 | | 22 | 75 | 44 | | 24 | 44 | 25 |
| | 22 | 73 | 56 | | 23 | | | | 25 | 47 | 32 |
| | 23 | 76 | 56 | | 24 | | | | 26 | 53 | 33 |
| | 24 | 75 | 57 | | 25 | 70 | 48 | | 27 | 63 | 40 |
| | 25 | 71 | 56 | | 26 | 72 | 36 | | 28 | 64 | 43 |
| *a.* | 26 | 72 | 57 | | 27 | | | | 29 | | |
| *a.* | 27 | 64 | 57 | | 28 | | | | 30 | 63 | 38 |
| *a.* | 28 | 68 | 54 | | 29 | 68 | 39 | | 31 | 54 | 39 |
| *a.* | 29 | 70 | 57 | | 30 | 66 | 42 | 11 mo. Nov. | 1 | 53 | 46 |
| | 30 | | | 10 mo. Oct. | 1 | | | | 2 | 61 | 45 |
| | 31 | | | | 2 | 70 | 41 | | 3 | 56 | 45 |
| 9 mo. Sept. | 1 | 74 | 58 | | 3 | | | | 4 | 54 | 45 |
| | 2 | 73 | 56 | | 4 | 65 | 47 | | 5 | 51 | 44 |
| | 3 | 73 | 51 | | 5 | 64 | 46 | | 6 | 50 | 31 |
| | 4 | 73 | 57 | | 6 | 64 | 54 | | 7 | 46 | 27 |
| | 5 | 72 | 55 | | 7 | 63 | 40 | | 8 | 46 | 31 |
| | 6 | 68 | 45 | | 8 | 62 | 51 | | 9 | 57 | 39 |
| | 7 | 72 | 49 | | 9 | 63 | 50 | *b.* | 10 | 52 | 38 |
| | 8 | 73 | 50 | | 10 | 63 | 42 | | 11 | 48 | 40 |

*g.* Some sharp claps of thunder about eleven a. m. In the evening, a meteor, about the size of a rocket, passed from E to W, rather ascending: thunder between one and two: heavy rain. *h.* Some thunder between one and two: heavy rain. *i.* Very foggy morning. *k.* Rain, very heavy at two p. m. *l.* A thunder-storm with rain for about two hours p. m.: a heavy shower of hail in London about three. *m.* Very heavy rain, morning. *n.* A slight thunder-storm about half-past one, wind NE: a fine *Stratus* on the marshes between seven and eight p. m. *o.* Some thunder and heavy rain p. m.: lunar halo at night. *p.* Rain: lunar halo. *q.* Rainy p. m.: wind S. *r.* Heavy rain between nine and ten a. m. *s.* Some thunder,

| 1806. | Temp. | | 1806. | Temp. | | 1806. | Temp. | |
|---|---|---|---|---|---|---|---|---|
| | Max. | Min. | | Max. | Min. | | Max. | Min. |
| *c*.11m.Nov12 | 50 | 33 | 19 | 55 | 47 | 25 | 56 | 52 |
| 13 | 47 | 34 | 20 | 51 | 35 | *d*. 26 | 57 | 47 |
| 14 | 57 | 48 | 21 | 47 | 35 | 27 | 50 | 39 |
| 15 | 53 | 48 | 22 | 45 | 31 | 28 | 56 | 41 |
| 16 | 53 | 37 | 23 | 43 | 27 | 29 | 60 | 54 |
| 17 | 48 | 39 | 24 | 51 | 33 | 30 | 58 | 36 |
| 18 | 53 | 43 | | | | | | |

evening. *t*. Rain. *u*. Heavy rain. *w*. A thunder-storm p. m. *x*. Some thunder: almost constant lightning between this evening and the next morning. *y*. A storm of thunder, &c. between nine and ten a. m. *a*. Rain. *b*. Foggy morning. *c*. Very misty morning. *d*. A very stormy day, continued rain from morning to night. About eight p. m. a beautiful coloured halo, the moon being near the full.

END OF THE THIRD VOLUME.

Joseph Rickerby, Printer, Sherbourn Lane, London.